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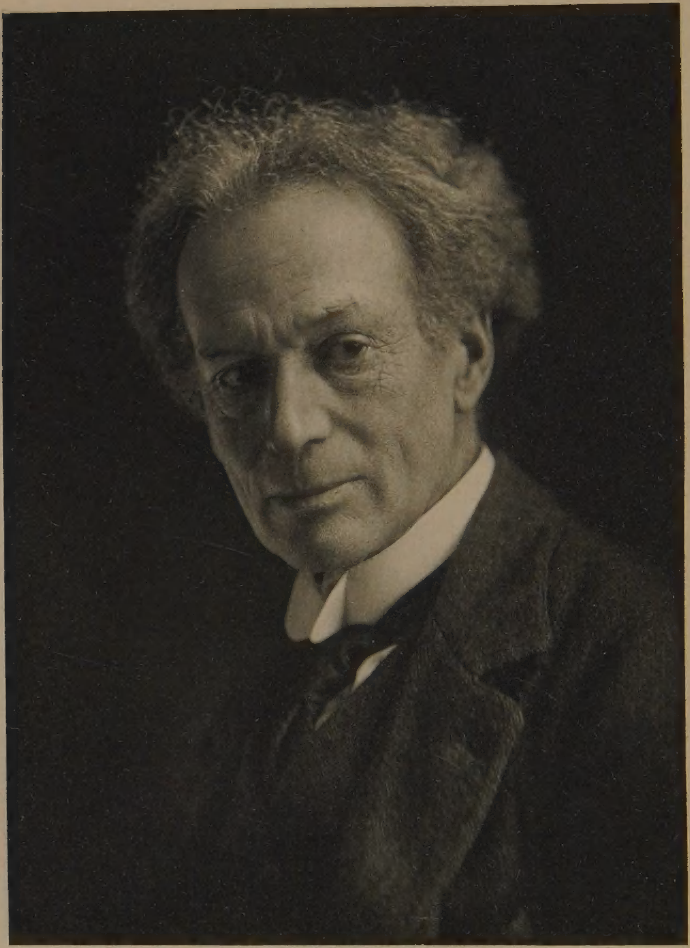
To Cousin Edith
with love from
V. Benson.



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Emery Walker ph.sc.

W. A. S. Benson

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DRAWING

Its History and Uses

by

illiam rthur mith
W. A. S. BENSON, 1854-1924.

With a Memoir

By the Hon. W. N. Bruce, C.B.

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MEMOIR

BY

The Hon. W. N. Bruce, C.B.

WILLIAM ARTHUR SMITH BENSON

I

It seems fitting that this little book on Drawing, published after the author's death, should be accompanied by a brief sketch of his life and work. William Benson's career, though not marked by striking incidents, has its significance for those who are interested in the great movement in the nineteenth century of which Ruskin and William Morris were the leaders, and for those who hold with them that Art must be a maimed and stunted thing until the whole community feels the need for beauty in the ordinary surroundings of daily life and until those who work with their hands feel pride and joy in their handiwork.

Though I had the happiness for some forty-five years to count Benson among my most cherished friends, I have no pretensions to offer an appreciation of his position as an artist-craftsman, or to do more than try to give some idea of his aims, of the course he followed in pursuit of them, and of the spirit in which he worked. I must gratefully acknowledge the help I have received in the performance of this task first of all from Mrs. Benson, at whose request it was undertaken, and from friends whose notes I have used in many passages besides those marked by inverted commas. I am, in particular, indebted to Mr. Halsey Ricardo, F.R.I.B.A., who preceded Benson as a pupil of Mr. Basil Champneys, and was his lifelong friend and a distinguished fellow-worker in the Art Workers Guild, and to Mr. C. S. Scott, who worked with him in his business from 1881 to the date of Benson's retirement.

II

William Arthur Smith Benson was born on the 17th October 1854 in Sussex Square, London. While he was still a child, his parents moved first to Tunbridge Wells and then to Langtons, on the outskirts of Alresford in Hampshire, which remained their home till his father's death in 1887. He was the eldest son of a family of four sons and two daughters. His father, who owing to illness had early abandoned an active career, led a quiet life in his country home, performing conscientiously the duties of a magistrate and good neighbour as long as his health permitted. He was a man of much cultivation, with sound sense and judgement, who was not only devotedly attached to his children, but had the rarer gift of a sympathy at once lively and patient with sons whose diversity of talents and whose unconventional aspirations must often have been not a little perplexing and disconcerting to one whose own mind and habits naturally followed the sober customary ways.

It is easier to recognize the son's inheritance from the mother's side. Elizabeth Soulsby Smith did not at all conform to ordinary types. With a countenance full of beauty and goodness and with kindly gracious manners and graceful ways, she had a quaint simplicity of mind and speech, and an unaffected unworldliness in her attitude to life. Though a great lover of poetry, and particularly of Shakespeare, she had never been in a playhouse until her third son (now Sir Frank Benson) had determined to make the Stage his profession. She had a keen sensibility to beauty in nature and art, and was an ardent student of Ruskin; among painters, she had a predilection for D. G. Rossetti and Burne-Jones, and she herself drew and painted with considerable skill, reaching her highest point in charming drawings of her children. She knew her own mind about things and persons, though, like her eldest son, she might sometimes find difficulty in expressing it.

Amid the scenery of the Itchen valley with its enchanting chalk stream, with the bare downs to wander or ride over, with Winchester within easy reach, with brothers and sisters of marked individuality but united in affection, and with such parents, the boy had the happiest of homes. In a letter to his father in 1886, at the time of his marriage, he says,

> 'Thank you very very much for all your kindness and arrangements for me, and Mother too. You are always so kind, one has learnt to take it as a matter of course, and did not know till quite grown up that parents were ever otherwise.'

Side by side with this life of encouragement for his idealistic and artistic tendencies came a no less potent influence on his development as a craftsman and technical expert. He was a frequent visitor to Colebrook Park, near Tonbridge, his mother's old home and the seat of her brother, Mr. William Arthur Smith. This uncle, to whom he was much attached, was himself a great worker with his hands and addicted to scientific pursuits, and introduced his nephew to the use of lathes and the mysteries and delights of elementary mechanics. Under his sympathetic guidance and instruction the boy had free scope for the development of his ingenious and inventive turn of mind.

The first glimpse we get of him from family correspondence is characteristic enough. We see him as a little fellow in his first term at a preparatory school at Brighton, paying a visit to a cousin of his mother's, who sends a full report of her impressions. The lady and the child take a walk together to 'a quiet part of the beach', conversation, no doubt, being a little constrained until it is discovered that boats are his great interest, whereupon we go nearer the pier and the boats where 'he seemed quite in his element and astonished me by the knowledge he showed of sailor language'—only the strictly technical and professional parts we must hope!—'and the clever way in which he talked. . . . We played at what he called "taking ships". It was a sea battle, I suppose, and all the time he talked in technical language.' After being further enlightened about the class to which a man-of-war mentioned by her belonged and how it had been superseded, the lady suggested that he must mean to be an admiral, 'but no! he was going to be an engineer'. She has to confess that she failed to draw him at all about his new experience at school. So he was all through life. It would often be difficult to extract anything from him about general topics or even his own work, but some chance would suddenly open the floodgates for an animated discourse full of exact and technical information on some subject which one would have supposed to be far removed from his range of experience and interest.

In 1868 he entered Winchester College, and in the four years of his stay there, though hindered by weak health, worked his way up the school to the VIth Form, and to the position of prefect. It may be doubted whether the ordinary course of a Public School at that time was the most suitable for his special needs and aptitudes, but his steady progress shows at any rate that he did not shrink from it. His letters, where they refer to studies, mainly make mention of Latin and Greek authors, with none of the repulsion, however, which we shall hear of later on at Oxford; indeed, he seems to have been sufficiently encouraged by his progress to tell his father at the end of his first year that he wishes to try for a school exhibition and that his tutor approves. It appears that he did try, and was successful. Lectures on botany are mentioned, and he also appears to have received from one of the masters a good grounding in geology, and, as early as 1870, to have been praised for a collection of fossils made in conjunction with a school-fellow, F. I. Church, son of the well-known Dean of St. Paul's. He never lost this early interest in geology, and advanced farther in the methodical study of it than in that of any other of the Natural Sciences. One does not hear much of games, and probably neither health nor the variety of his other interests allowed him to give the time to them necessary for marked success. But he was from the first a keen member of the Volunteer Corps and a good enough shot with the rifle to become a member of the school team in his second year, and to take his part in that year and in 1871 in the Public Schools Competition for the Ashburton Shield at Wimbledon. In the latter year Winchester won the shield. He had a serious interest in the Volunteer movement as a civic duty, and in 1872 received a commission as ensign and was subsequently promoted to be a lieutenant in what became the 1st Volunteer Battalion of the Hampshire Regiment, a corps in which his father had already been a zealous and efficient officer.

Perhaps the most abiding impression left on him by his school-days at Winchester was made by the Head Master, Dr. Ridding, of whose character and intellect he spoke in after years with a reverential admiration stronger than that which he accorded to any other of the men who influenced his life.

Benson's health and physique were never of the robust order, and towards the end of his Winchester time and for some years after he was constantly handicapped by headaches, severe colds, and a weak digestion. But he was sound in constitution, and his frame, though slightly built, was well-knit. He had the springy walk and alert movements of a man who has a good reserve of nervous energy. He was very fond of dancing as a young man, and kept up his lawn tennis and sea-bathing to the very end of his life.

III

After leaving Winchester, he spent a year or so in trying to shake off his ailments. He did not enter New College, Oxford, till the autumn of 1874, a few days before his twentieth birthday, and about a year later than the usual age. It must have been a great delight to both mother and son to know that he would find Ruskin lecturing there and inciting the undergraduates to take to road-making in place of the customary athletic sports.

But the first mention of the great man in his letters is sadly irreverent!

'Nov. 4th, '74 . . . I saw Ruskin the other day with his coat off, trying with small appearance of success to break stones at the celebrated Hinksey diggings. They do not appear to be making much progress with their road.' He himself, undutiful disciple, was about the same time competing in the hurdle-race at the Freshmen's Sports, coming in second after a fall but for which 'I should have won'. For the comfort of his mother he explains: 'I have done with hurdle racing for the present, and I did not do any training in the beef-steak way. . . . It does not tire me in the least.'

On the 20th November he reports that he has that day, for the first time, heard Ruskin lecture, 'mainly about Brunelleschi, the builder of the dome of Florence, who appears to have been a great man. He alluded to Della Robbia as "my favourite" and finished by some criticism of some proposed alterations at Christ Church, which was what I went to hear, as it had been announced beforehand.' There is not much enthusiasm here either, partly because that was not his way in writing, and partly because he could always see the whimsical side of his prophet. His firm hold of the concrete, of the practical side of craftsmanship, was always present to temper his idealism and keep his feet steady on the ground. But he remained a constant reader of Ruskin all his life and a faithful follower of his fundamental teaching. Before hearing this lecture he had enjoyed the genial hospitality of Dr. Henry Acland, and tells, in the letter quoted above, how his host, having discovered that some one had been drawing caricatures at Ruskin's lectures and suspecting him to be the culprit, asked him at breakfast if he was fond of drawing his neighbours. He was told afterwards by the real culprit what the question had meant.

Among the pleasures and recreations of undergraduate life he rated none more highly than the opportunities it afforded to lovers of good music. He did not sing or play any instrument, but he was an appreciative and intelligent listener, and, as usual with him, took a great interest in the technical qualities of musical instruments. He was on the committee of the Oxford Musical Club, and probably in that way struck up a friendship with the late Sir Walter Parratt, at that time organist at Magdalen College. He loved to tell stories of the prowess of that remarkable man, and how he had seen him play three separate opponents at chess simultaneously without seeing the chess-boards and while playing fugues of Bach and Handel on the organ.

At Oxford, as at Winchester, he appears to have submitted meekly to the ordinary course of studies recommended to him, and not to have gone out of his way to seek any other as possibly more suited to his own needs. He passed 'Responsions' duly at the end of his first term and 'Moderations' a year later, and began to read for honours in the Final School of Classics and Philosophy. Neither at the time nor in later recollections of him do his teachers seem to have suspected the feelings of dissatisfaction and rebellion with which he regarded these studies. He appears to have been docile and sociable. One tutor for whom he had the warmest regard recalls his 'gracious dreamy manner, and the friendly way he used to look in and talk about outside interests, such as North Polar Exploration (Nares)'. The Rev. W. A. Spooner, so many years Warden of the College, who was his tutor in the later part of his time and a lifelong friend, writing of him as an undergraduate, says:

> 'The chief points that remain with me are his devotion to Morris and the movement which Morris represented; but it was the artistic rather than the socialistic side of Morris's teaching in which he was interested, and the special part of Morris's teaching which appealed to him most was the contention that the workmen should take an interest in what they did and put something of their own into it. . . . Next to his following of Morris, his family affection seemed to me a prominent feature in his undergraduate life; he liked his people to know and take an interest in all he was doing. While a keen Wykehamist, he seemed to live somewhat apart from the ordinary interests of undergraduate life. As to his work, rather feeble health interfered with it, but he had a shrewd judgement in philosophy, was a rather ardent Platonist, and had a considerable power of putting a good deal into a small compass. This gave his work the appearance of being more scrappy and thin than it really was.'

Apparently he had gone to Oxford, like many another, with no fixed choice of a future profession or career to guide or stimulate him. There appears to have been some talk of the Law, but either from ill-health or from a natural inclination to postpone a troublesome decision, he had given no one in or out of his family any clear idea of his inner feelings or intentions, and when the ferment that had been working in his own mind could no longer be suppressed, and the crisis came, the revelation seems to have taken both the College authorities and his parents by surprise, not so much that he should be contemplating some branch of art as a profession, as that he should have been making himself so unhappy over his present studies and be so determined on instant escape from them. The shock was administered in a letter to his father, dated 2 May 1876, which as a very sincere fragment of mental autobiography may be quoted almost entirely:—

> 'I enclose a letter from Mr. Basil Champneys which I got this morning in answer to one I wrote to him. I do not know how far my entertaining any such idea is a surprise to you and Mamma, but really for a long time, at least from my first going to Winchester, Architecture has been one of my most constant day-dreams, though, such is my habit of reticence, I have never breathed a syllable of my true feelings on the point; even when questioned closely on the point of my future profession, I have never hinted at the one which was always readiest to my thoughts. You know I have always had the greatest variety of interests, have always, as Uncle Willie told me, had too many irons in the fire. About the time I went to Darch's [Preparatory School, see p. x] I was all for engineering, and to this day I rarely miss a paragraph in the Papers relating to it. Then as my love of art revived, at first alternating, my two favourite hobbies coalesced in architecture. Though I was so jealous of my thoughts that I scarcely put them on paper as intelligible drawings for fear of being asked about them, yet I do, I think, still keep one or two such drawings done during my first year at Winchester. And now work at classical books has got continually more laborious to me. Had it been possible to concentrate my work on English philosophical writings I might have been truly industrious; but as it is, first on the list of things to be done each day comes some Greek book which I attack in a hopeless way demoralized by constant defeats in the same contest, and generally abandon at the end of an hour at latest with a headache rather than with any idea of what I have read. Of course, if not excited by some amusement, I am dissatisfied with myself for the rest of the day, and my chance of doing work is not increased by the resulting depression.'

After saying that in this state of mind he had appealed to Mr. Basil Champneys for advice about becoming an architect, he continues:

'I am afraid this letter will read cold and unfeeling, but the fact is that neither in talking nor writing, except under the influence of excitement of some sort, do I know at all how to express what I feel in the least degree. At the most my habit is to put forward some paradox and then, frightened at what I have said, try and explain it away rather than try and fully show the other side of the truth that was in my mind to begin with. Indeed, dear Papa, it has needed much brooding over all this to induce me to let any one know a syllable of it. . . . Somehow I find it easier to begin coldly with a stranger, even my tutors here have become too near to me to confide in them entirely in any one point though I may confide a great deal on every point. . . . Perhaps I should have spoken long ago but for a vague feeling that it was not to be, and a sort of idea that I was going to be a lawyer. But my experience here is that many far harder-headed men than I are intending to be barristers, but that the rarest power among them all is constructive artistic power apart from mere critical power which is fairly common to the extent of taking some pleasure in pretty things. My want here is the reverse of my want at Winchester. There my work was to my mind, but I had no recreation. Here I can generally find a companion suited to my mood, but the work is no longer satisfactory. It seems too that the only work which makes my head ache when I am well to begin with is work that is nearly related to what I was doing when I first broke down. Only this Easter I puzzled through, for pure amusement, a hydraulic puzzle that was far more difficult than an amount of Greek that would have made my head ache and disgusted me with all that came before me.'

The good uncle to whom this letter was referred for advice replies to his sister with the freedom and cheerful irresponsibility commonly exercised by uncles and brothers on such occasions: 'Now for Will's letter which reminded me of you in its roundabout way of saying "I wish to be an architect". What more natural and suitable? I've often, as you know, said that it was a great pity Will's inventive power should be thrown away. It is surely a happy thing to find one's work in what one most likes.' This is very sound and sensible, but perhaps it does not show as much insight into the young man's trouble as Mrs. Benson's reminder to her son that he had recently expressed a wish to be a painter. To one looking back it is quite possible to discern a doubt in his mind if he was to find his true vocation even in architecture, or whether he would not still have to seek a new solution of the problem of how best to bring his inventive and artistic faculties into harmonious relation. He replies to his mother that none of the questions put to him by her or his tutors can be answered by 'yes' or 'no'. As to painting,

> 'When I told you of it I was in the first enthusiasm of a newly awakened perception of the beauties of pictures, and the beautiful forms and colours I saw around me in nature appeared in consequence in quite a new aspect, and I longed to put them upon record; and that longing is as strong as ever though I have more knowledge of the difficulties in the way of it. . . . They [his leanings to painting and architecture] are only two sides of one thing. . . . For indeed all my various tastes are closely connected by a bond that I myself have but lately discovered, in the way that I regard them, which is essentially that one of two habits of mind into which some have divided the characters of all men, which is not the critical, and were I read in German philosophy I doubtless could give you one of those much admired monstrosities of compound words which it has pleased learned critics to apply to this habit, which is essentially the artistic. It is indeed very much the same set of qualities which delights me in a poem, in a ship, a picture or a bridge; and for all I have a similar ideal standard of excellence, and that standard is beauty in a certain sense. But here I have got out of my depth into something which I hope is metaphysics and not nonsense.'

If his state of mind as he paints it in these letters was a little morbid, he gave proof of a healthy enough tenacity and good sense and good temper in acting upon his decision when at last it was made. He departed from college on the most friendly terms with the authorities, it being arranged, on his own motion apparently rather than on theirs, that he should return at intervals to satisfy the minimum requirements of residence for a Pass Degree, which he finally took in June 1878, proceeding to the M.A. degree in 1887. For the rest of his life he felt a warm affection for his old college, and was not only a constant visitor there at the annual gatherings for old members, but also had the happiness to be employed professionally in the electric lighting of the Warden's Lodgings and other parts of the college buildings.

IV

He was now free to work out his own destiny, and lost no time in getting himself articled as a pupil under Mr. Basil Champneys, an architect of eminence and a man of wide culture who gave his new pupil guidance and encouragement with unstinted generosity over and above his purely professional instruction. He remained with him from 1877 to 1880, though before the end of his time it was known to both of them that he was not going to make architecture the chief business of his life. Not that he ever dropped the practice of it, for to the end he loved to exercise his skill in that way; but he did not seek work as an architect, and only took such commissions as his friends asked him from time to time to undertake. Mr. Halsey Ricardo writes: 'He was known to the world at large by the articles in the Bond Street shop, but he was in heart as well as by profession an architect; building and construction were the permanent interests of his being. As it happened fate allowed him only restricted scope in this direction, calling undue attention to his talents in metal-work. What he did in the way of building had a character and interest that showed itself in all he touched. Without any strain after originality his work had individuality: all the materials used had their respective rights recognized and engaged. More experience in house building would have given him possibly a broader handling of the ingredients, a lesser prominence to ingenuity.'

We may add to this estimate of his skill as an architect that the façade of his shop, No. 83 New Bond Street, which he rebuilt, drew high praise from competent judges.

In these three years of steady work and professional training his artistic career was being determined not by his professional master but by the impulse certain instincts and cravings of his own received from an introduction which soon ripened into intimate friendship with Burne-Jones and through him with William Morris. The origin of this introduction has been charmingly told by Lady Burne-Jones in her *Memorials of Edward Burne-Jones*. Referring to the visit of Richard Wagner to London in 1877, she relates how the painter, with whom the musician had exchanged polite messages, went to several of his concerts and even to a morning rehearsal—'an extraordinary thing' for him to do; but, she continues:—

> 'This apparent desertion of work, however, had happy consequences: for, soon after taking his place, he discerned amongst the audience a young girl whose head was of the type that he knew would be helpful to him in his Perseus pictures. When the rehearsal was over he turned to Mr. Richard Grosvenor, who happened to be sitting near us, and said, "If

only I could make some studies from her!" "I'll ask if you may," was the answer, and to our amazement he went directly to the young lady and her mother, who were just going out. We saw him join them and disappear, but knew no more till the next day. Then Mr. Grosvenor came to tell us that, curiously enough, he had been able to do some little service for the ladies as they were entering the hall the day before and so had earned a right to claim their attention afterwards, and that in the kindest way possible Edward's request had been granted. "She has often been called my Burne-Jones daughter", said the mother, with quiet understanding of the incident. And so we came to know first Mrs. and Miss Benson of Alresford, and afterwards other members of their family. From the eldest son, Mr. W. A. S. Benson, Edward painted the head of his "Pygmalion".'

Benson also sat to Burne-Jones for the figure of King Cophetua in the picture now in the Tate Gallery, and he designed the king's crown. Later on he constructed models of armour and notably of the ship for the picture of the Sirens. He also sat for his own portrait, as appeared from a letter to his mother (5 May 1880) in which he says, 'B. J. complained that as soon as he began to draw I looked like a gentleman and he was sure you would not like that!'

From this time onward Benson's diary makes frequent reference to his growing intimacy with Burne-Jones and his family at their house in North End Road; and when they made themselves a country home at Rottingdean it was to him that the painter entrusted the work of reconstruction and enlargement of an existing house, the erection of a studio, and the designing of much of the furniture.

The first mention of William Morris in his diary or letters occurs early in 1878. He is seen at the Burne-Jones's, but is taking his leave as the young man enters the room. But in the following year Benson writes of his finding 'on the platform at Paddington Morris and W. Richmond afterwards joined by Burne-Jones and Street the architect all going to make a row about St. Mark's at Oxford'—this was the controversy about the repair to the floor of St. Mark's at Venice in which Ruskin took a prominent part—'Morris had photographs and Street specimens of the mosaics as specimens of the method of restoration'. A memorable company and journey for the young aspirant! In March 1880 Mrs. Burne-Jones tells him that her husband and Morris are very anxious that he should settle near them, and by May things were so far advanced that he had 'succeeded in mending Morris's garden pump which would not draw water', and stayed to supper in company with Burne-Jones and William Richmond.

He was now launched upon the work of his life. These great men were welcoming him to the artistic fellowship not merely as an architect or an enthusiastic admirer, but as one in whom they recognized original ideas and creative power in the sphere in which Morris was exercising the larger part of his own versatile genius. There is no account in his own words of his new departure, though it is fairly clear that he is referring to the subject in a letter to his mother (17 Jan. 1880) in which he is apparently defending himself for not setting up formally as an architect or working as a designer for manufacturers. 'The long and short of it is I must make something or be miserable. If one is working for any one else, one's ideas are only in the way, they are no good to him and they are distracting. . . . Here [in the contemplated workshop] are things waiting to be done and I long to do them, and I think there is every chance of profit as well as pleasure.' During his apprenticeship to Mr. Champneys he seems to have been steadily maturing plans for starting a business of his own as a designer and maker of furniture, and of articles of domestic use in various metals. There would have been nothing much out of the way if he had thrown himself into the work of designing, but the combination of that art with the establishment of a business as a manufacturer and shopkeeper required remarkable courage at the start and great faith and tenacity of purpose to carry it through. In those days there were people, even among his own acquaintance, who were inclined to regard his enterprise as a social misdemeanour, and could only shake their heads over it as an error due to eccentricity. But that was an aspect which, if it ever occurred to him, would have given him little concern. On the other hand, he was quite alive to his own want of experience and of special faculty in purely business matters, and to the difficulties which any one becoming a trader in his circumstances, even if better skilled in such things, must expect to encounter. Further, although his father seems to have been most generous in helping him through the initial financial difficulties, there was no considerable capital available at the outset, and there was consequently serious difficulty in accumulating a supply of articles for show and sale to the casual inquirer besides executing orders for immediate payment. Even when accommodation had been found and suitable workmen discovered and secured, progress was bound to be slow on account of the experimental character of much of the work. His use of different metals, for example, in his lamps was so novel as often to require the invention and construction of special tools.

In response to the wish expressed by Burne-Jones and Morris that he should be near them, he made a start early in 1880 in a small workshop in North End Road, where he set up a few foot-power lathes for turning metal-work. But by the middle of 1882 he had already outgrown these premises and moved to an old malt-house on Chiswick Mall, where he established a foundry. A little later he opened a showroom in Campden Hill Road; subsequently a new factory was built in Hammersmith, and (about 1887) a shop opened in New Bond Street.

In some notes prepared for the information of customers in 1883, on the arts concerned with the production of furniture and fittings of wood and metal, he defines his aim to be

> 'to produce work consistent and original in style, of shapely form, and carefully designed for the convenience of use. For, seeing the chaos that has prevailed in such things, I have set myself to work steadily through the whole range of necessary furniture and fittings, hoping, by this same steadiness of purpose and by constantly frequenting the workshops, to avoid the capricious eclecticism and overmuch straining after effect which are the besetting sins of a draughtsman. Therefore, to begin with, I have endeavoured to make tables and chairs and such things which form the bulk of our household requisites studiously simple in line, trusting that rooms containing such shapely and convenient looking furniture would have a quiet dignity of appearance more pleasing in its reasonableness than if every object claimed attention by obtrusive quaintness or Chinese intricacy of design.'

After giving some illustrations of his meaning, he continues:

> 'This extreme simplicity, however, is not always desirable. . . . Besides the serviceable furniture before described, we may

rejoice our fancy in carven cabinets and inlaid chests and other delights of cunning workmanship: only the fancy and the cunning should be fresh and living, not a faded recollection of the works of bygone days or alien races.'

He points out that windows and fireplaces, being the principal features of most rooms, have a special claim on the decorative arts, a fact which indicates the closeness of the connexion between the minor arts and the master art of architecture, and how impossible it is that they should flourish in separation.

'Hence', he adds, 'springs my hope that in devoting my first efforts to the development of these minor arts by actual workshop practice, I am doing the best I can to forward the evolution of a style of building suited to modern needs and capable of expressing the higher thoughts of serious people, satisfying those aspirations for beauty which are now turned into other channels or thrown back upon the contemplation of the work of former times and other peoples.'

Mr. Halsey Ricardo, commenting on the character of his work, insists most strongly on its derivation from the bench, the lathe, and the furnace, and dwells on his readiness to experiment with new materials, make fresh application of their qualities, and take the advantages of help from machinery.

The writer of the obituary notice of him in *The Times* (9 July 1924) dwells on the same union of artistic and engineering ability which we have noted in his early years.

'As a craftsman in metal Benson's most distinguishable features were, first, his feeling for broad simple forms and graceful curves, and, secondly, his mechanical ability. He preferred to approach his subject as an engineer rather than as a hand-worker; to produce beautiful forms by machinery on a commercial scale rather than single works of art. Thus his lamps, vases, entrée dishes, &c., were all the outcome of profound study of the capabilities of heavy stamping plant, spinning lathes, and shaping tools which he was able to put down in the large Hammersmith works. Visitors to the works who knew him as a rather dreamy artist . . . were amazed and almost aghast to find themselves in what appeared to be an engineering workshop full of large machines . . . and a lacquering department which had benefited so much from his inventive genius that constant efforts were made by trade rivals to penetrate its secrets.'

His relations with his workpeople seem to have been always of the most friendly. At one time he worked hard at the economic problems of various systems of copartnership, but never saw his way to put any in practice. From notes kindly supplied by his friend and manager, Mr. C. S. Scott, it appears that the difficulty of finding men who could give him intelligent help in working out his ideas was one of the greatest obstacles he encountered, though he was 'pathetically grateful when some one grasped an idea before he had fully explained it'. As his business expanded it was clearly an immense relief to him to delegate to competent allies the main direction of the purely engineering and commercial sides of his enterprise. It is interesting to note that he did not believe that the difficulty in finding the right workmen for good work in the minor arts was due merely or mainly to the want of technical education. In an article written for the *English Illustrated Magazine* (Oct. 1889) he says:

> 'The workmen are as skilful as need be, though native taste and originality may be as rare among them as they always and everywhere have been; but, whatever his skill, he gets scant encouragement to do his best or chance to show it.'

The real impediment to the best work was the hasty and hurried execution demanded by the belief that quantity pays better than quality. One of the remedies he suggested was better means of exhibiting work of this class, a subject to which we shall return later.

V

Whatever were the struggles and anxieties of these early years, they were not allowed entirely to engross his attention or to interfere with the development of his varied tastes and hobbies or with the enjoyment of a widening circle of friends. He consorted much at this period with his brother-in-law, Heywood Sumner, William De Morgan, and one or two others who, like himself, were deeply interested in the minor arts connected with architecture. But he also had largely increased his acquaintance amongst young men of his own standing by his frequent visits to Oxford during the undergraduate life of his brother, Frank Benson, which followed close upon his own. He took an active part in that famous exploit of his brother, the production of the Agamemnon of Aeschylus in Greek which took place in the summer and autumn of 1880. He not only gave the company the benefit of his skill and ingenuity as stage architect, but also brought to their aid some of his great friends in the world of art. There have been notable performances of Greek plays since that day; there has been none in which the young actors had their dresses draped for them by a Burne-Jones, a William Richmond, an Alma Tadema. Many years after he wrote a charming account of the adventure for the *Cornhill Magazine* (May 1918).

During these years his health, somewhat uncertain and never of the best, did not seriously interfere with his work, though it often caused anxiety to his family. His mother would occasionally press on him the need for longer holidays and rest. But he was able to reply triumphantly that things were changed with him since the days when he was working against the grain—'Now I have work to do'! Nevertheless he was not specially gifted to look after himself, and on that account, as well as for other more spiritual and incalculable blessings, it was a crowning mercy when in 1886 he married Venetia, daughter of Mr. Alfred Hunt, the distinguished landscape painter.

VI

In less than ten years from the start Benson had won for himself a well-established position both commercially and as an artist. His work was being talked about, bought, and imitated. We hear of a lady bringing Benson a lamp back to the shop to be mended. She couldn't think why it had gone wrong as she had bought it at ——'s and given 25*s.* for it. Alas! it was a base copy of one which she might have had for 15*s.* His relations with Morris became very close from 1883 onwards. In April of that year he records that he had been to see Morris and 'told him of my ideas, and he talked a good deal about things concerning them. It will at all events make it easier to ask him more in future as I had never gone into detail in talking to him.' It was probably due to this outburst of confidence that in the following year he co-operated with Morris in furnishing an artisan's dwelling in the new Art Museum at Manchester, and until the death of the great Master he was constantly associated with him in contracts for decorative work undertaken by Morris in which metal-work and schemes of lighting played a part.

Benson was an original member of the Art Workers' Guild, founded in 1884, and read at its meetings several papers on professional subjects. Mr. Mackail in his *Life of William Morris* has told admirably how this movement grew from seed sown by Morris, and expressed itself in an effort to create a sense of corporate life among the artists and workmen who were beginning, more or less in isolation, to give practical effect to the principle that 'the manager, the designer, and the artificer should cease to be three distinct persons belonging to different social grades, differently educated and differently employed, working without mutual sympathy, or even each in active hostility to the others'. Benson had soon formed the opinion that the movement must be carried a stage farther, and that it was essential for a restoration of healthy life to the minor arts that means should be organized for giving designers and artisans reasonable opportunities for exhibiting their work from time to time, and for giving the public the means of forming a better taste and judgement in such matters. In the year 1886 a Committee was got together at his instance and largely by his personal exertions, and out of its deliberations sprang the 'Arts and Crafts Exhibition Society' which held its first exhibition in 1888 at the New Gallery, Regent Street. Benson contributed to its catalogue an article on 'Metal-work' which, says Mr. Ricardo, 'shows a far-reaching acquaintance with the qualities and treatment of the material, and of the masterpieces shown in the Museums'. The next few years, indeed, show a considerable activity in the way of lectures and contributions to magazines and societies. There were lectures delivered at Manchester and Cambridge, papers read to the Art Workers' Guild on 'Mechanical Aids to Production', on 'The County Council and New Streets', and on 'Bridges', and contributions to the *English Illustrated Magazine*. Writing was no easy matter to him, but he presents his case in an orderly, well-reasoned way. He makes the reader feel that he knows what he is talking about. There is always something in the matter which is fresh and profitable. What he has to say is supported by historical as well as practical knowledge of the subject, and, moreover, through the wide range of his interests and his firm grasp of underlying principles he sees his subject in proper perspective and relation to other things.

In his youth he had travelled little, but after his marriage there were tours in Belgium and Holland and Normandy, and visits to Nuremburg, and to Venice, Verona, and Padua. But one of the greatest pleasures he derived from a fair degree of prosperity in business was that of building himself a house in Sussex. He already had a cottage at Manorbier in Pembrokeshire, where he could indulge in bathing in the fairy coves of that lovely Welsh coast and pursue his geological studies along its limestone or sandstone cliffs. These attractions had a formidable rival in the neighbouring Pembroke Docks. He had maintained and cultivated from childhood a passion for ships and naval architecture, and had a truly astonishing knowledge of the history and modern developments of our fleet and of naval construction. He was listened to and referred to as an authority on these matters by men who were professionally concerned with them; and perhaps few things gave him greater pleasure than the fact that Mr. Rudyard Kipling, whose acquaintance he had made through the Burne-Jones family, liked to consult him on the technical details of some of his writings—*A Fleet in Being*, for example. Astronomy was another subject for which he managed to find a good deal of time, and to develop his knowledge and interest far enough to be an active member of the Astronomical Society.

He had no taste for large social gatherings, but no man liked more to have his own friends about him; though even with these he would often unconsciously lapse into long spells of silence and fits of abstraction. The patience of the sympathetic visitor was, however, generally rewarded by an outburst in some unlooked-for direction of animated talk full of fresh views, keen observation, and vivid illustration.

After the death of William Morris in 1896, a company was formed to carry on his business under the title of William Morris & Co., Decorators, Ltd., on the lines laid down by him, and of this company Benson was chairman for many years. He also received another gratifying mark of recognition of the position he had won for himself in his appointment, in 1908, as a member of a Departmental Committee of the Board of Education to advise upon the reorganization of the Victoria and Albert Museum on its installation in the new buildings at South Kensington.

There can be few branches of industry less calculated than the decorative arts to stand the strain of a great war, so, in 1914, 'the first effect', writes Mr. C. S. Scott, 'was disastrous, but when it was suggested to Benson that some one might rent his works as a storehouse he wisely objected, and said that he felt we ought to be able to do something for the war. It took some time to persuade the official mind that an "Art" metal-works could do anything useful, but by degrees orders came in.' The works were mainly occupied with the production of certain parts of shells. These operations gave rise, as was not uncommon in such cases, to a complicated financial question with the Department concerned. That this question was settled in favour of the firm was, Mr. Scott thinks, 'mainly due to Benson's ability and obvious sincerity'. He must have found some consolation and satisfaction in one part at least of his new labours, for the notes kindly furnished by Mr. Scott show that some delicate and important work was done for the Admiralty, including Torpedo Directors for coastal motor boats; Direction Sights; Spotting Tables, or instruments enabling officers to practise anywhere the art of finding the position of a distant vessel; and Torpedo Attack Teachers, apparatus of a larger and more complicated character serving much the same purpose as the Spotting Tables. In such unexpected ways was the artist-craftsman, when his career was drawing to a close, linked up with the little boy whom we saw on the beach at Brighton discoursing so brightly and learnedly on the development of the British Navy!

When the war was over, Benson, then in his sixty-fifth year, decided to retire from his business as soon as he could dispose of it, and accordingly found himself a free man in 1920. He had parted with the house he had built himself in Sussex, but kept on his cottage in

Pembrokeshire and looked forward to dividing his time between that and London, where he hoped to pick up old friendships and pursue old hobbies with the old zest. Little time, however, was left to him. While at his Pembrokeshire home, full of the enjoyment of bathing and lawn tennis and a life of happy leisure, he was suddenly taken ill and passed away three days after, on the 5th July 1924, in his seventieth year.

So ended a life spent nobly, sincerely, devotedly in the work to which he had felt himself called. If he had, like the rest of poor mortals, failed to achieve much of what he had dreamed and hoped, he had nevertheless won his way through many a tough obstruction without the sacrifice of any of the principles, artistic or industrial, with which he started. He preserved to the end in all its purity and simplicity a most lovable character moulded on loyalty to all that is good and true and beautiful, and a mind richly stored with varied and accurate knowledge. His intellectual attitude towards his life's work is well described in the motto chosen by himself for this little book:

> 'The specialist does not know his own job if he knows that and no other.'

DRAWING

Its History and Uses

BY

W. A. S. Benson

‘The specialist does not really know his own job if he knows that and no other.’

O. G. S. CRAWFORD
Man and his Past

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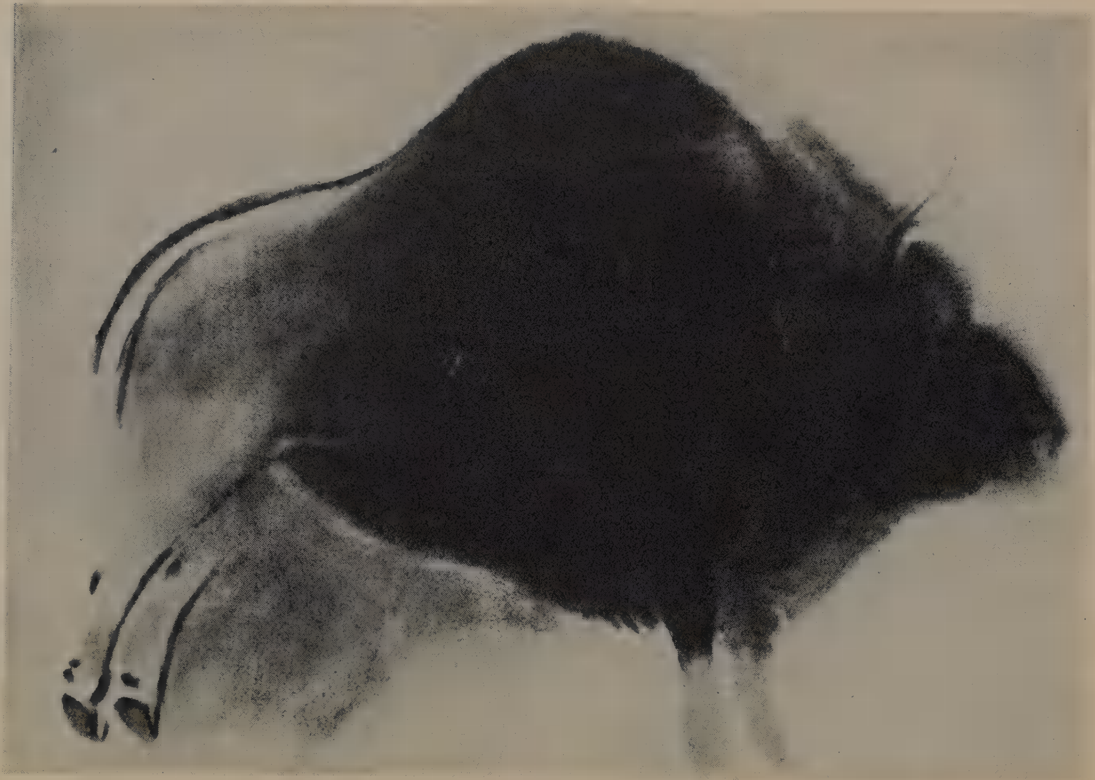


Fig. 1. A CAVE PICTURE

I

Drawing the likeness of things originated as an instinct in the infancy of mankind. The primitive plaiting of threads into mats and baskets gave rise to geometrical drawing.

THOUGH it is now accepted that drawing should take a place beside writing as a necessary subject in school, the variety of purposes which drawing serves in education and in life is not too well understood. It is commonly regarded either as a means of training hand and eye, a sort of gymnastic exercise; or as an introduction to the fine art of painting, to a poetry of sight, such as music is of sound. Both of these it is, or may be; but it is very much more; for it is the alternative to speech from which all forms of written language have arisen. The actual drawing lesson cannot but follow more or less well-known lines, however varied by local and personal factors; that is, it will be directed towards training the hand to record what the eye perceives. But over and above this gymnastic course of observation and hand-control, it is essential to realize the relation of drawing to other facts of life; how it is an introduction to history and to science, and to countless practical arts as well as to the fine arts. There is no walk of life in which drawing in one form or another may not be directly helpful as well as a means to understanding the work of others, provided we keep in mind the aim of making school drawing an introduction to the language of the arts.

Now this language is a very ancient language; for both in the history of the race and in the growth of the individual child the imitation of things seen, that is, some form of drawing, is among the earliest manifestations of dawning intelligence. How many thousand years ago no one knows, there lived in the south of France and the north of Spain a race of hunters; long, very long, before iron or even bronze had been discovered, when flakes of flint were the sharpest cutting tools men knew of, and when the making even of these was in that early stage described as the old stone-age (palaeolithic). It is an old story that man is a tool-using animal, and since flint is very indestructible stuff, such implements are the most abundant relics of the times before written history began. They may be looked for, together with the bones of animals and the charred remains of kitchen fires, in the accumulated earth which forms the floor of the caves that sheltered primitive man. So it happened that a Spanish antiquary searching for such things took his young daughter with him, and while his eyes were intent upon the floor, the child who had no professional idea what to look for or where, let her eyes roam, and suddenly startled her father by exclaiming, ‘Bulls, papa, bulls!’ And sure enough there they were, depicted with marvellous skill on the sides of the cavern. Since then many more finds have made certain the immense antiquity, and even increased the wonder of the skill of these primitive artists.

It is plain that these men who lived so long ago had the same instinct that sportsmen show to-day when they hang their walls with pictures of fox-hunting, the prevailing interest of so many an English country-side;

and that when not actually hunting they spent their leisure in making a record of the chase in the only way possible, by the language of the arts. So also with children, who instinctively strive to express their interest in what they see and convey an impression to others by pictorial means. At the seaside the child will draw ships; people and engines and cars in town; pigs, sheep, and cattle in the country. The intention is the same: but there is little else that is childish about the cave-man's pictures, which for mastery of execution surpass anything known to us till uncounted ages had elapsed. These pictures upon the rocks, a few carved and engraved tusks and horns, implements of flint and bone, and their skeletons, are all that remains of this far-off race. Of their rise and fall no record has been found, and the only work we know at all like theirs are the pictures made in modern times by the Bushmen in South Africa. We cannot say how far the primitive artist added to his sheer pleasure in portraiture a belief in magic which should give him command over the living game he pursued, corresponding to his mastery of their pictured shapes; nor to what extent he worked in pride of his prowess as a hunter, keeping a record of the 'bag' and possibly adding signs of number to denote its amount. As in the case of so many other races, little but their art survives to show us what manner of men they were.

The race of cave-dwelling hunters passed away and, how long after we cannot tell, Europe came to be inhabited by pastoral and agricultural tribes who, though they have left us no monuments of high art, polished their flint implements exquisitely, and had arrived at the beginning of textile crafts, weaving grasses and fibres into matting or cloth, and rushes or osiers into basket-work. Again, we can compare these processes with modern counterparts, such as the plaiting of paper mats in the nursery and the weaving of the bast matting used in our gardens. Though, contrasted with the portraits of primeval beasts, these childlike crafts may seem a sad stepback, yet the change from the cave to the hut denotes a great advance, and in the interlacing strands and chequer-work we may discern the origins of a wide range of civilized arts. The paper strips of two colours are less primitive successors to the tape-like shreds of the inner bark of the lime-tree used to make the common bast mat, the alternation of colour as one strip passes in turn behind the other bringing out the pattern of the weave more distinctly. It is obvious that the resulting chequer can be represented on flat paper by ruling two sets of lines crossing each other at equal distances and tinting every other square. To outline a section of a chessboard and colour the squares is in fact among the first exercises which Ruskin prescribed for his pupils. It is an exercise calculated to teach once for all the difficulty of accurate brushwork and the painstaking practice necessary to attain skill.

If instead of flat strips of bark or paper rounded threads of pliable material are used, this matting becomes the simplest type of woven cloth, a textile fabric. Returning to the nursery we find a connexion between drawing and woven stuff in the old-fashioned plan of introducing children to the arts by means of a piece of coarse canvas and skeins of coloured wool. They were set, for instance, to work a kettle-holder in cross-stitch, showing a kettle and the motto 'Except the kettle boiling be, filling the tea-pot spoils the tea'. Endless lessons might be drawn from this little effort of industrial art. To begin with the canvas; the threads are of equal thickness and, spaced at equal intervals, cross each other squarely; so that if the kettle has been drawn upon a piece of squared paper it can be copied by counting the threads of the warp and the woof and also the corresponding lines on the paper, a practice which has many useful applications of which much more has yet to be said. But the immediate result is that the child has made that piece of canvas tell its story in two languages, the pictorial and the verbal. The direct picture of the kettle, black on a flame-coloured ground, emitting steam, is a piece of heraldry, proclaiming the purpose and distinguishing it from a mat, while the lettering gives warning of the conditions for its successful use.

Now the squares ruled on the paper may be larger or smaller than the pattern and yet be a true copy. Thus instead of the coarse canvas and wool used for the kettle-holder, the finer thread seen in old-fashioned samplers would give a copy on a smaller scale. In one way or another most people in childhood are introduced to the practice of counting squares in work or play; the important thing is that the knowledge thus begun should be carried on into after life and not dropped in the elementary stage of education, to be lost altogether, or with difficulty recovered to meet practical needs in later life. For it is a first step towards endless differing kinds of drawing in mechanics, art, and science, in which the method of 'squaring out' is perpetually used for all sorts of purposes. Even from this childish example we have approached the idea of scale and proportion, but before considering threads and squares as the geometric basis of pattern, there is more to say of them as being themselves the pattern. The canvas ground was a ready-finished fabric interesting to the draughtsman chiefly because it gives a system of lines to fix the position of the stitches, which we may call the indivisible atoms of the finished pattern. And with little difference the same may be said of all embroidery, and of such elaborate kinds of weaving as those carpets in which the face of the stuff is made up of dots held in place by a hidden fabric of crossing threads. But the earliest textiles, including basket-work and plaiting, make their effect solely by the arrangement of the actual strands of the weaving; for instance, a basket made with white rods of peeled osier interchanged with green rushes. The oldest specimens of weaving that have come down to us are charred remains and impressions in the clay hearths and floors of neolithic lake-dwellings, baked by the domestic fire or the disaster of conflagration. The materials employed in these crafts are so perishable that no argument can be founded upon the scarcity or abundance of remains; but it is certain that the beginnings of such handiwork are very old indeed, and mark a second starting-point on the geometrical side in the growth of the instinct for order and beauty, distinct from, even when running parallel with, the instinct for portraiture of man and beast.

Though the modern pupil may make a rapid passage from the chequered mat to the use of crossing lines as a foundation for picture-work, a slow development step by step has to be realized if the place of design in the history of the human race is to be understood. The threads of the canvas, warp and woof, cross at equal distances over and under; it is a plain weave. But if the woof, which is the thread on the shuttle, is passed under two and over one of the warp, which is the name given to the threads stretched on the loom or frame, the result is a twill. Nor is the weaver limited to skipping two; he may skip several and it need not be the same number every time; so the possible variety is very great indeed. Quite primitive people found out that varying the number skipped in a regular sequence produces a pattern, the method of which is easily followed in matting or basket-work, especially when threads of different colours are used. These purely geometric patterns, though entirely dependent upon the

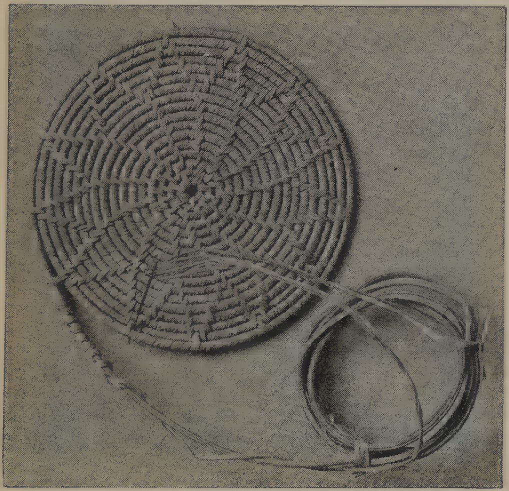
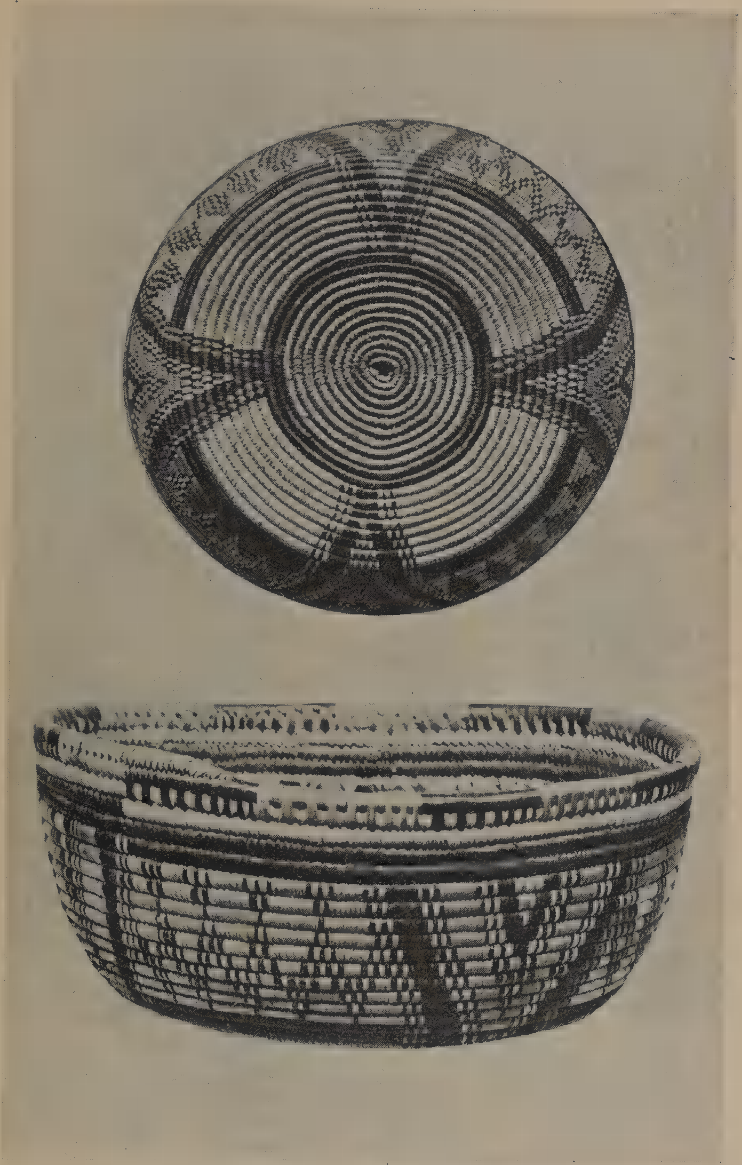


Fig. 2. Pattern in long and short stitch

process of weaving without any idea of imitative portraiture, are pleasing to look at and express pleasure in the making. By and by, with increasing skill, weavers learned to play with their material, and found they could produce some resemblance to natural forms, such as rough pictures of men and animals. It would take something like artistic genius to begin this, and the originator would have followers who copied him, and perhaps some who improved upon his lead; but as time went on they would copy with less and less eye to nature, while the straight lines of the weave always hindering the drawing of natural curves, the picture would gradually relapse into mere symbols and unrecognizable geometric forms. At one stage or another these forms may persist for generations; and to many backward peoples the patterns served to express all that the best brains among them felt in the way of poetry and imagination; while the heraldry of differing patterns of chequered mat helped, like the Scottish tartans, to distinguish one tribe from another.

Though all sorts of plaiting and basket-work are essentially forms of weaving, the term is usually limited to fabrics made of threads too flexible to keep straight without some contrivance of the nature of a loom. For basket-work a certain stiffness in the material must always have been necessary for the making of rounded shapes. In these there appears a different principle of weaving, based not on the stretched warp thread but upon a coiled twig; a spiral either simple and stitched together coil by coil, or bent in and out of a foundation of crossed twigs. The coil gives us a new starting-point for pattern in the geometry of the spiral. But baskets have an archaeological interest far beyond their intrinsic importance.



Figs. 3 and 4. A coiled and stitched basket

Once they were the only vessels available other than could be made of shells, of gourds, or of leather. They were, and by certain Red Indian tribes are to this day, made water-tight by an interior coating of varnish, just

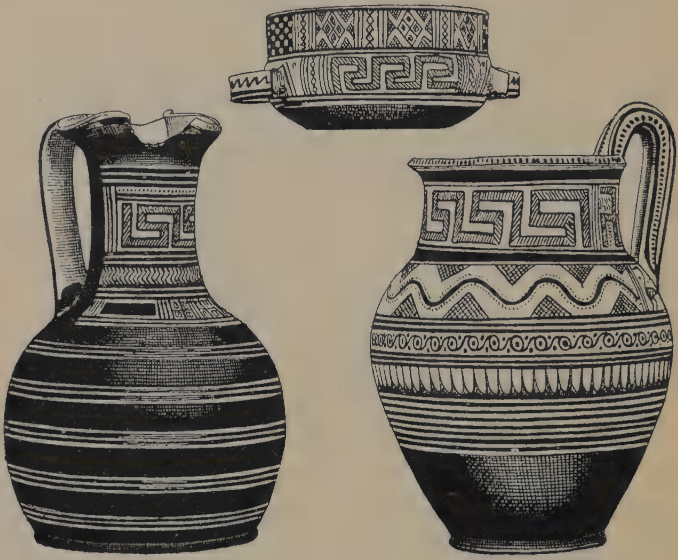


Fig. 5. Pottery with incised ornament

as was the ark of bulrushes smeared with slime and pitch in which the infant Moses was hidden among the reeds. But it is a different protective coating which ranks highest in the story of the arts; one of clay to resist fire, for in this lay the germ of the art of pottery. The twigs or rushes burnt away and left the hardened clay, the first beginning of pottery. Presently clay pots began to be made independently of baskets; but by a principle which it is easy to deride, though deeply rooted in human nature, the potters for ages continued to ornament their wares with imitations of the basket-work they were accustomed to admire, copying the ornamental forms which may still be seen in baskets from all parts of the world. Thus the interlacing strands of the weaver were literally impressed upon the fictile art, which has preserved their early memory and recorded these first steps in the great series of decorative forms founded upon geometry which take such an important place in the history and practice of drawing.

II

The history of the way in which drawing led to writing is preserved in the monuments of ancient Egypt.

ASSOCIATED with the wall-paintings of the prehistoric cave-dwellers and with palaeolithic remains elsewhere, carved figures of bone and ivory have also been found; so that it may be doubted whether sculpture or painting was in fact the first artistic attempt of early man, and it is arguable that, theoretically, it requires less abstract thought to concoct a scarecrow or imagery of 'stocks and stones and other senseless things' than to trace the rudest outline on the flat. For we do not portray what we actually see, but always supplement the direct observation of the moment by memory and knowledge. What is seen, that is the image impressed upon our eyes, is a number of infinitely varied patches of colour; those

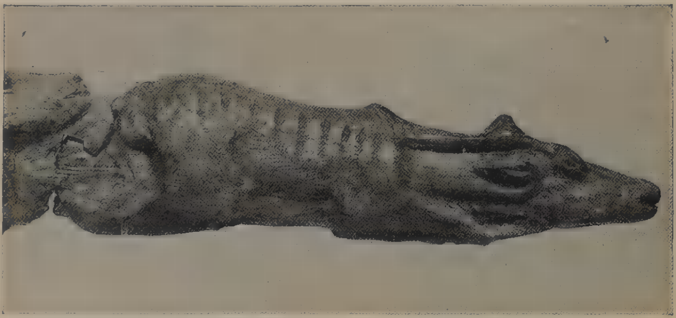


FIG. 6. Reindeer carved on mammoth tusk

looked at centrally are more or less sharply defined, while they fade into a blurred vagueness all round. Any one watching a baby may learn some of the steps by which we have come to interpret these patches of colour ; a growing sense of touch and movement has gradually taught us to judge of solidity and distance with much precision. But this judgement comes at a very early age, so that by the time ability to draw is reached, the feeling for space and solidity is already well developed, and it requires conscious control to distinguish observation from inference. The tendency to represent more than is on the instant visible is widespread, and a case in point is the practice of ancient orientals, who though content when drawing the face in profile to show but one eye, yet show that eye as it is seen full face. Some of the patches of colour which we see shade off indefinitely into each other, but the most striking, which are the first to be noticed, stand out sharply enough. Thus there is nothing indefinite in the view of a cow near by in a field ; and though it is likely enough part white, part brown, with all the gradations of light and shade which indicate the solid rounded object, the entire animal is plainly distinguished from foreground and background of grass or hedgerow. The composite patch of colour as a whole has a well-defined boundary, a sharp edge ; in short an outline, which can be indicated by a scratch or a pencil-stroke. And we have learnt, prehistoric man learnt, as a child in the nursery learns, to make this outline do duty for the shape of a cow, and to take it for granted that what is inside this line stands for cow and what is outside is field or something else. It is important to remember that, matter of course as all this seems now, it was to begin with a considerable effort of mind, not only to draw the cow but merely to recognize what the scratch, filled in perhaps with a smudge of colour, represents. The cow will not recognize her portrait, nor yet our trusty friend the farmer's dog, even when the profile is cut out full size to advertise the milk.

The device of making the outline do duty for the space is a most important step towards the use of drawing as a supplement and alternative to spoken language. For consider the meaning of the word *describe*. To speak of describing a circle means outlining it with a pair of compasses or a piece of string, and though we should probably take describing a cow to mean verbal description, it is none the less true that the outline defines the shape far more precisely. The use of outline and the textile beginnings of geometry among prehistoric tribes, of which archaeology gives us glimpses, had undergone immense development by the time the dawn of history, and a continuous chronology, are reached under the earliest Egyptian dynasties. The Egyptians were a people with a well-established civilization who built houses and temples and practised with great skill the arts derived from portraiture of man and beast and plant both in carving and painting, as well as those founded on a geometrical basis such as weaving and pottery. Among the arts, the highest level attained was in human portraiture carved in wood or stone, a level indeed scarcely to be surpassed. But besides simple portraiture we find the full development of a procedure whose early stages are familiar in the nursery, the use of pictures as an aid to story-telling. At first the picture was painted, much as the cave-men may have painted it, and its story told by word of mouth, and the young people who heard would, as they grew older, be reminded of the story by the picture and say to a new generation, 'I tell you the tale as it was told to me': each picture always recalling its own story as it does with children to-day. But by the time of the first monarchy in Egypt the great step had been made from pictures as an aid to verbal memory to pictures as a substitute for memory, that is to the first stages of written records. And a great part of the process is shown by paintings in Egyptian tombs. It is easy to understand how a settled agricultural people should have felt the need to put their art to a use unknown to the palaeolithic hunters who lived from hand to mouth. For husbandry demands that the harvest store should last till another is garnered; and obviously rationing is made more certain by the device of a score, a picture of the produce with marks of number added. So we see the steward inscribing on his tablets

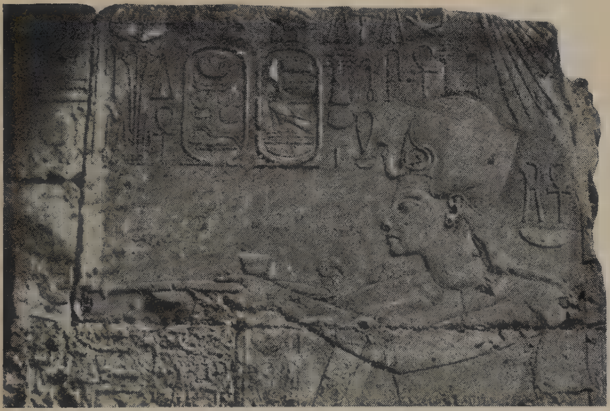


Fig. 7. Egyptian portrait sculpture

the quantity of products yielded by an estate, or due as tithe or tribute. There are goods which can be kept in store, grain and dried fruits; wine and oil in jars—others must only be delivered for immediate consumption, such as fish, flesh, and fowl. This suggests the next step in the language of drawing, by which instead of a record the draft becomes a command; and when the great man's table requires, for instance, so much poultry, a picture with a score makes the order clear, and it is given the signature of authority by some sort of seal. But by the time of the first Egyptian dynasty these early developments had led to more complex advances. For the large pictures designed to keep in memory the wealth and achievements of kings and chieftains are supplemented by little pictures which do not at first seem to convey any idea, though it is easy to see that they are sketches of

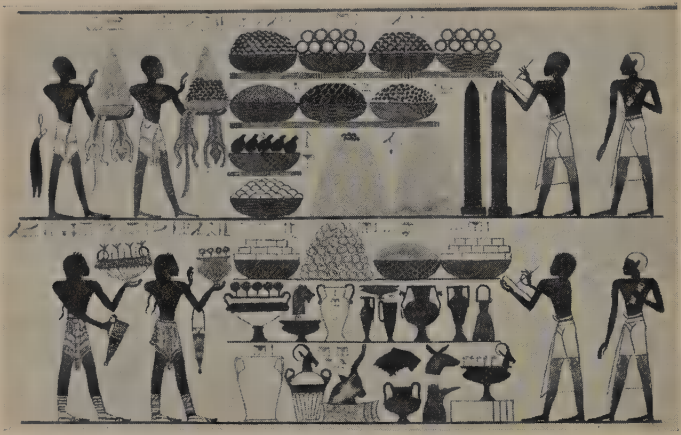
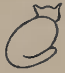


Fig. 8. Egyptian stewards recording produce

strangely assorted objects such as parts of the human body, domestic implements, and various kinds of beast or bird. These are what are known as hieroglyphics, and are a stage in the process by which drawing developed into writing; and while the large picture shows what the great man looked like, and is a portrait, the groups of little pictures tell his name and his rank or office. It is, in fact, just the same in principle as the nursery pictures of a cat with the word printed under it. It is the same combination of pictorial drawing with literary script which is met with every day, from the picture with a label on the frame, to the book with pictures in it, useful in every art and science. So much evidence remains that it does not strain imagination to complete the story of the growth of letters out of pictures, beginning as children do to-day, and as stone-age men did ages ago, with painstaking drawings of cats and dogs and other familiar objects. Then when the pictures were used, for instance, by the Egyptian steward for keeping accounts, they would speedily be reduced to the simplest outline in order to save time and trouble; so the cat would come to be some such graph as .

Presently from being the picture of an object the graph came to be the picture of the name of the object; that is, instead of standing for something seen it stood for something heard, a sound or a syllable. Then by putting two or more graphs together words of more than one syllable could be built up, and in this stage of characters which represent syllables, Chinese writing has remained, so that there are thousands of characters in use. The final stage is reached when the graph comes to stand, not for a syllable, but for the initial sound only, and it becomes a letter, and we use three letters *C*, *A*, *T*, to denote the complete word or syllable. In the Hebrew and Phoenician alphabets, from which our own is ultimately derived, the names of the letters are those of the objects of which they were at first the pictures. Thus, Aleph is an ox; Beth is a house, the syllable so familiar in Bible place-names. The third letter is not the *C* of our cat, but the initial *G* of Gimel a camel. At first the letters were fairly good portraits, as we see in Egyptian hieroglyphs; but when the alphabet was transferred to a language which did not spell house with a *B* but with a *D* as in Latin or in English an *H*, the resemblance ceased to be desirable and the scribes were contented to make the fewest distinctive strokes.

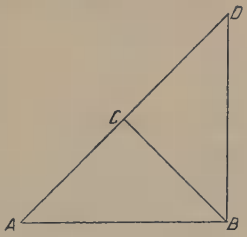
As in every other form of drawing so also in lettering it is important to observe the influence of the tools and materials employed. The Egyptian working with a reed pen, the Chinaman with his long flexible brush, the Babylonian printing wedges in plastic clay, and the Roman cutting his noble lettering into hard stone, each modified his characters to suit his tools and his materials. From all such there are lessons for us to learn; not only in the management of the pen and ink we habitually think of as the means of writing, but also in the ever-increasingly elaborate art of printing. The writing we inherit from antiquity gave shape to the first printer's type, and fixed though the general character of each letter is, there is endless variety in detail, allowing adaptation to the many sorts of tools and materials employed, not only in the actual script or type, but in other forms of drawing, both pictorial and diagrammatic, associated with it. The lettering of the lithographic poster will differ from that on a copper-plate, and the script of a roll of honour from a short-hand clerk's notes, and so on without end. It is the acceptance of this difference, and the studious recovery or fresh initiation of an appropriate variety of style which is perhaps the outstanding achievement of recent English draughtsmanship, in and out of school. Thus, though there are countless ways in which drawing of some kind is employed to convey ideas between one person and another, we are the better able to appreciate Ruskin's saying 'that the beginning of all useful applications of drawing is, of course, in the determination of useful, clear and beautiful forms for letters'.

III

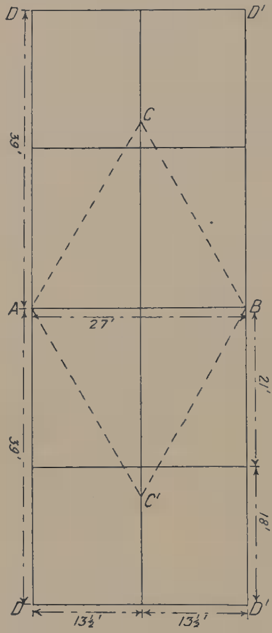
The beginnings of geometry with pegs and string as points and lines; similar triangles and proportion. Diagrams and Algebra. The Graphic formula. Scientific sketching. Boundary and operation lines. Line as an artistic convention.

WRITING, then, originated in drawing, and all the words for writing in Western tongues denote some scoring or scratching process, being of older origin than the use of pen and ink. But the word *drawing* itself belongs to a different order of ideas, though the history of the language does not clearly reveal the steps by which it got this specialized sense. Some of the ideas it covers come into view when we trace the meaning of line in the beginnings of geometry as a practical art of land measurement. For this we look again to Egypt, where the whole wealth of the country was derived from the narrow strip of land fertilized by the yearly floods of the Nile; and as the floods would obliterate permanent boundaries, each cultivator's plot had to be determined annually by rod and line. The first and most persistent of all methods of drawing a line is that of pulling a string tight, and to the question: What is a line? the historical answer is that it is a thread; linen, or spun flax having given the idea and the name to European languages. Scientifically a line is abstract length, which has no breadth, and the ends of it are points, position without magnitude, and Euclid the geometer of Alexandria, who wrote some 2,000 years ago, defined a straight line as one that lies evenly between its extreme points, which is an obvious description of a cord pulled tight, though its appropriateness is less clear to a student nowadays working at a table with ruler and compasses.

The old geometry is in fact a study of all that can be done with the countryman's implements, string and pegs, which are still just as necessary though we are able to obtain readily handy measuring-tapes and surveyors' chains, and for more extensive survey such instruments of precision as theodolites and the like. For in the garden or field there is no T-square to slide along the edge of a board, nor set-square to give a right-angle when and where required. These are only convenient ways of doing on a small scale what in the field we do by stretching a string. Doubling this upon itself gives us a pair of equal lengths, which leads to two convenient ways of solving the ever-recurring problem of setting out a right-angle. Firstly; having doubled a length of cord upon itself peg down the ends at *A* and *B*; keeping hold of the middle point *C* and pulling out the bight till *AC* and *CB* 'lie evenly'; then put a peg at *C* and carry the end *B* to *D* where it lies evenly in a straight line with *AC*, and put in a peg at *D*: then *ABD* is a right-angle. The measure of such lines can be taken very easily by laying a stick along them (rod, pole, or perch) and counting the repeats of its length, marking off any fractional remainder by a notch in the stick, a proce-



dure which, beginning with pacing, has been in use time out of mind. Ages ago rods were cut to standardize feet or cubits (the length of the fore-arm) and as we have found specimens of the Egyptian cubit and the Roman foot we know their standard measures.

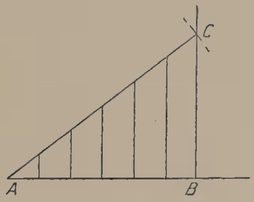


The second method of setting out a right-angle by doubling a line upon itself is the more convenient when a plot has to be set out from a centre line; for instance, a tennis-court which has to be rectangular and exactly measured. Very long ago certified metal bars were set aside as standard British yards; and copies divided into feet and inches are to be had everywhere. So in order to mark out a single court twenty-seven feet are measured on the proposed net-line AB, then with garden line doubled upon itself two points, C, C^1, are found symmetrically placed on opposite sides of the net-line; next the cord is stretched so as to lie evenly between the points C, C^1, and continued as far beyond as is necessary for the centre-line of the court: 39 feet measured in both directions from the net give the points D, D^1, at which the centre-line meets the base-line. Then the points at which 13½ feet measured from D and D^1 exactly meet 39 feet measured from A and B give the four corners of the court, and it only remains to measure 21 feet from the net for the service-court and so determine the position of every line ready to be marked out with whitening. Thus the system of lines demanded by the rules of the game is drawn in chalk upon the grass, using a stretched cord to make a large diagram similar to the small one made on paper with rulers and compasses. Sometimes instead of chalk lines a court is marked out by actual linen tapes cut to length with rings sewn in to mark the corners; this it happens illustrates in practical use a method of the old geometers which has sometimes been laughed at, that of applying one figure to another. For obviously the whole system of lines is contrived to be moved and actually applied elsewhere.

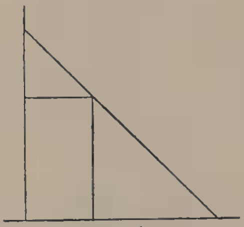
A third practical method of setting out right-angles in the field follows from Euclid, i. 47: by which lines in the proportion 3, 4, 5 give the sides of a right-angled triangle. This numerical case of the general principle was known very long ago, and tradition has it that the builders of the pyramids used it in the marvellously accurate construction of these vast piles. But as they are planned on central lines with subsidiary buildings it is probable that for the plan they used the method described for a tennis-court. Though the idea of a straight line has arisen from that use of a stretched cord which all surveying employs, it is far from being transferred to the lawn as length without breadth; for the chalk mark is fully an inch and a half wide. What then is the line? It is in fact an edge; the terminator of a space within which the ball must fall to satisfy the conditions of a stroke. So in practice very rough approximations to a mathematical line have to serve when such things as tennis-courts are defined by white lines on a dark ground, or the reverse. This holds true in a great many works of draughtsmanship; thus in pattern designing it makes a sensible difference whether the block-cutter or engraver works to the inside or the outside of a designer's pencil-mark.

Quite another order of difficulties meets the surveyor or engineer in very large works. No unmanageable bulk of line is dealt with in a tennis-court: it is easy to draw a cord taut enough to lie evenly and long enough to peg off from it the required portions. But in the setting out of the base of the great Pyramid, whose area is 13½ acres, larger, that is, than Lincoln's Inn Fields, there could have been no question of cutting off what is required from a real stretched line. Nowadays using steel wire might get over the difficulty; as was done in setting out the Forth Bridge with its spans of a third of a mile, which put a strain on the steel wire such as would tear asunder any other material long before it lay evenly. When the capacity of this most tenacious of substances is exceeded, recourse must be had to visionary lines, and the optician is called to aid with the sextant and theodolite, and all the instruments which depend upon taking a sight.

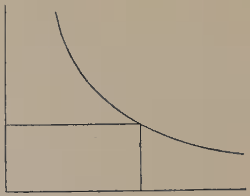
Thus, in the practice of geometrical drawing, as the actual size increases the limits of what can be done with the boxwood ruler, the garden tape, the steel wire, are successively passed, and finally in the study of astronomy even the powers of the optical methods of trigonometrical survey are overtaxed. Yet all through the properties of triangles taught by elementary geometry are applied. All argument from plan or diagram on paper to material fact depends on the principle of similar triangles, which opens up the aesthetic as well as the geometrical and mechanical problems of proportion. For example, a draughtsman who has to divide a given line into a number of equal parts will take a line AB and mark off say six divisions of one inch; then drawing BC at right angles to AB and setting his compasses to the given length he finds the point C. Lines parallel to BC at every inch complete the construction and divide AC into six equal parts. This is perhaps the most frequent form in which the geometry of proportion presents itself to the draughtsman. Slightly modified, it is the common way of setting out a flight of stairs to scale, the dimensions being, as a rule, simultaneously worked out arithmetically, an instance of the connexion in practical drawing between the treatment of proportion in geometry, arithmetic, and algebra.



The child's picture of an animal with the name written below, the Egyptian picture of a king with his titles set forth in a cartouche, are but instances of the combination of pictorial and verbal expression developed in the scientific diagram with its algebraic equivalent. In Professor Whitehead's *Introduction to Mathematics*, this diagram is called a pictorial representation of certain facts corresponding to the formula, inscription, or cartouche, $x + y = 1$. Again Boyle's Law is pictured

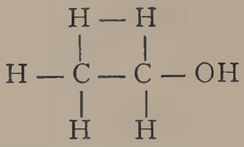


$x + y = 1$



$pv = 1$

to which the appropriate formula is $pv = 1$. In yet another sense the chemist gives pictorial statements of the presumed relation between the atoms in compound substances; here, for instance, is a chemical picture of alcohol:



$$\begin{array}{ccccccc} & & H & — & H & & \\ & & | & & | & & \\ H & — & C & — & C & — & OH \\ & & | & & | & & \\ & & H & & H & & \end{array}$$

It is true that the chemical picture is not purely pictorial, but what is called a graphic formula, a combination of diagram and symbolic lettering in one draft. Not an artistic method, some may say, but wrongly; for this leaf from a landscape-painter's note-book is plainly a graphic formula of a sunset sky. But the utility of drawing in science is not limited to abstract line and graphic formula. That the chemist and the physicist may scheme their apparatus or record its form by drawing every text-book shows. Lessons from a friendly artist enabled Faraday to make the illustrated notes of Sir H. Davy's lectures which introduced the poor errand-boy to the Royal Institution, where he made his name the most illustrious on the roll of its professors. And while biographers extol the excellence of Lord Lister's drawings of microscopic structure and the accuracy of Sir Joseph Hooker's plant drawings, we find a brilliant young biologist of the day lamenting the hindrance to his work due to want of school training in art. Still more obvious is the utility of drawing to the mechanist. Nasmyth, the famous inventor of the steam-hammer, a member of a gifted family of artists, kept a book on his office table in which he sketched ideas for new machines and illustrated points which arose in conversation with customers.

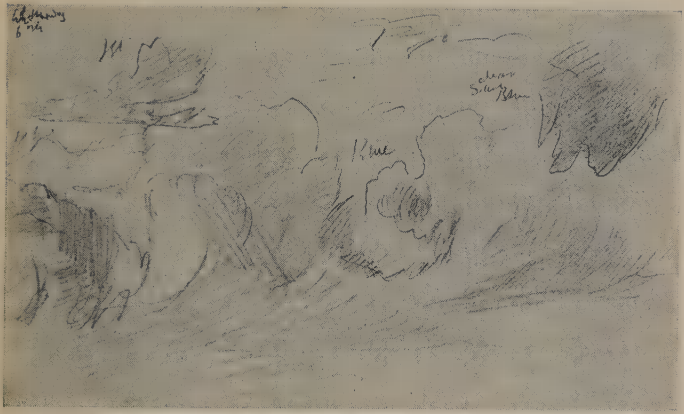


Fig. 9. Graphic formula of a sunset sky

It was observed that the drawings made by the Egyptian steward took two forms, a record and an order;

these drawings of machines may be similarly distinguished into those that are pictures of something accomplished and those that are forecasts, projects, or designs. Lister and Hooker drew records of what they saw in nature; Faraday and Nasmyth made sketches which were intended to be worked from; yet all four learnt to draw in much the same way, that of the pictorial artist, which whatever subsequent use is made of it is the best training; for it is in the power of representing by outline the boundaries of visible form that useful applications of drawing begin. But when artists speak of a sense of line, there is usually blended with the sense of a boundary a perception of line in that other meaning of the word typified by the crossing threads of the canvas. These we call operation-lines; the term includes centre-lines and vanishing-lines, and others used in scheming a drawing or a scientific diagram which are rubbed out in finishing. By that economy of effort called stylization, which supplants boundary by operation-lines we may render the human figure as a skeleton of centre-lines (Fig. 11), mostly as a joke, but not differing in principle from the diagram of a cylinder with piston, flywheel, and connecting-rod; a stylized view of an engine convenient for mechanical discussion. (Fig. 12.)

Complicated diagrams of the sort are used in graphic statics. Fig. 13, for instance, is a stylized view of a trussed bridge, the circles, which would be filled in with numerals, standing for the load. The equivalent of their weights and the stresses they put on the structure can be rearranged as lines in a diagram (Fig. 14), which no longer bears any likeness to the actual bridge, but is a graphic symbol of the forces tending to destroy and the strength which maintains the structure. Neither diagram tells anything of the shape of the parts or of the details of the joints, nor of the finish and colour, all

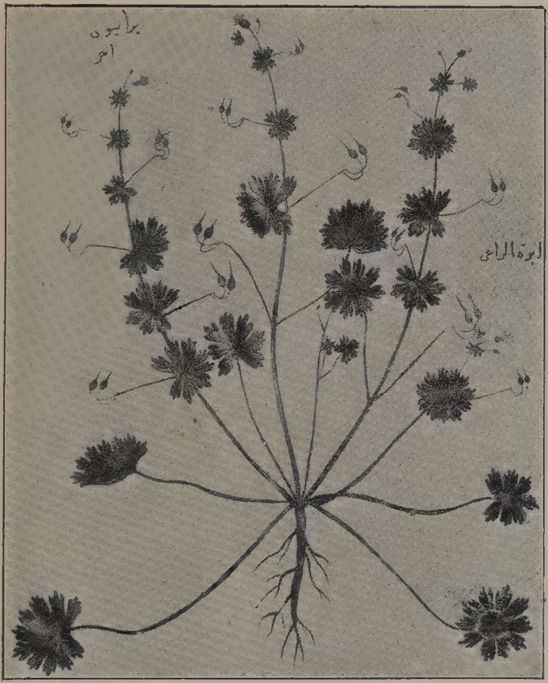


Fig. 10. Plant drawing. From a fifth-century manuscript of Dioscorides

of which are so important to its appearance. Still less pictorial is the parallelogram of forces by which the pressure of the wind blowing into the swelling sails of a ship (Fig. 15), which delight the eye as she heels over to the breeze, is resolved into a bare diagram of pressure and resistance. Lines of force of quite a different nature are shown by the patterns in which grains of sand strewn on a metal plate set in vibration by a fiddle-bow drawn across its edge will arrange themselves; yet others are revealed in the

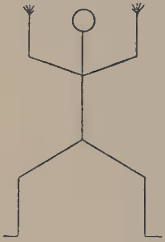


FIG. 11.

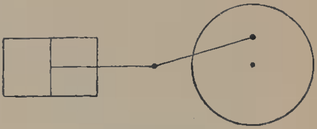


FIG. 12.

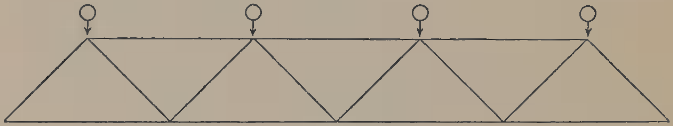


FIG. 13.

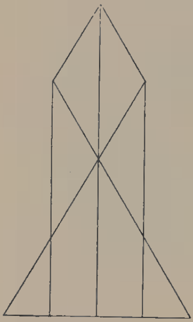


FIG. 14.

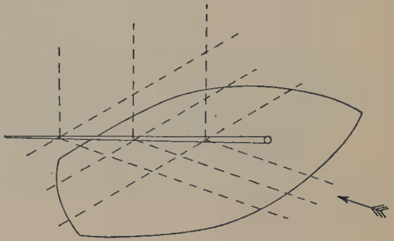


FIG. 15.

more mysterious groupings of iron filings under the influence of a magnet.

To take an instance of a different class: in a shoot of a bay-tree we may distinguish the operation-lines of the main growth from the two boundary lines of the stem seen in silhouette and also from the intricacy of the leaf forms. But the leaves themselves (Fig. 16) give the clearest lesson, for each starts from the twig with a definite line of advance, a bias of its own, and finding other leaves in the way has to conform to the community of leafage. The midrib marks the operation-line from which the boundary curves of the leaf surface diverge to meet again at the tip. But here also there are operation as well as boundary lines to consider, for the leaf does not lie in one plane and the visible boundary is a sinuous curve touching the operation curve at successive points along the edges of the crinkles. The leaf is a piece of natural engineering, and to draw it by lightly sketching in the midrib and the two boundaries follows the methods of structural design, in which general formulae and calculations refer to midribs and operation-lines, while clothing the skeleton and

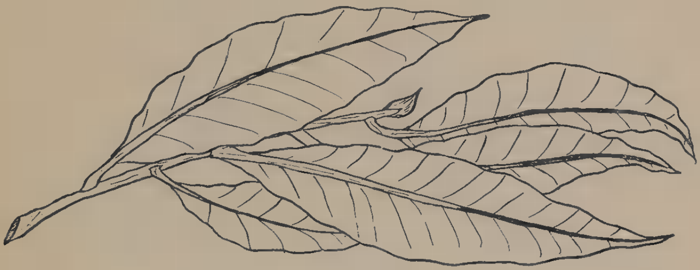


FIG. 16.

drawing the contours corresponds to workshop execution. The apparent curves of vegetation are usually broken at each joint or bud. Often they consist of a series of nearly straight growths each set at a constant angle to and rather shorter than its predecessor; thus in Fig. 17, each section diminishes by one-third and is set 30° out of line. It is obvious that the curve tends to be a spiral, as in Fig. 18, where ruler and square give successive points in the curve which has to be put in freehand. This joining up of successive points, which is called 'fairing the curve', is essentially an artistic process; it assumes that the laws of nature tend towards formal beauty. So in astronomy

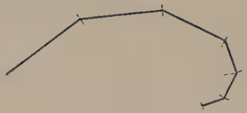


FIG. 17.

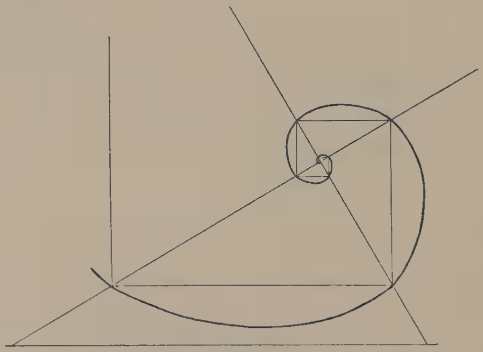


FIG. 18.

the changing positions of a comet or a planet are observed at intervals and a curve found which unites them, and economists use a similar device in reducing to order complicated statistics. More and more do business men set out such facts as fluctuating prices and costs in the form of a chart, which has the advantage of showing at a glance any numerical error.

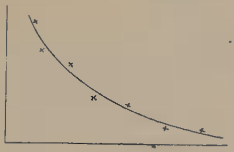
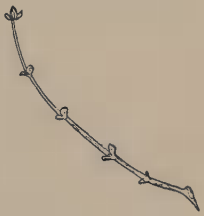


Fig. 19.



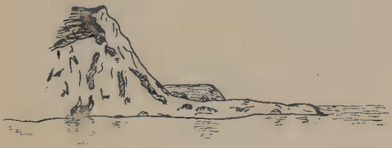


Fig. 20.

Fig. 21.

It is remarkable how similar curves occur in very different circumstances; Fig. 19 is a curve of diminishing cost with increasing production, plotted from successive figures in the accounts; Fig. 20 is a sketch of the weathering back of certain cliffs, such as those near Rye; which again we may compare with the upward curvature of a twig striving to grow past its fellows and get to the light (Fig. 21). Other not uncommon hill forms resemble the parabola by which a projectile returns to earth (Fig. 22). The laws of such curves are subjects for sciences —geology, and so on; what should interest the draughtsman is the recurrence of similar curves in seemingly unrelated matters. Observe that, while in angular forms such as a pyramid the profile, being the meeting of two plane surfaces, is a line in Euclid's sense, there is no such line on the cliff and the apparent line shifts as we approach or recede. What landscape-painting and scene-painting represent as successive planes are really successive masses seen in profile. The profile of a face is different again; for though there is no palpable line there is an operation-line, the central line of symmetry on either side of which the pattern repeats; two eyes, ears, and nostrils, and the symmetrical mouth.

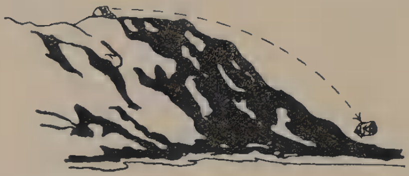


FIG. 22.

Alike in art and science excellence in draughtsmanship begins in development of the sense of line, latent as well as apparent. But the lines when drawn are not mathematical lines: for the stroke of the pencil or pen, the chalk lines of our playing-grounds, the furrow of the engraver's burin, and the surface line of the wood-block; the thickness of each of these may vary; they may differ not only in direction but in quality. It is in this that the artist's touch is manifest, expressing much more than the mere position of an edge. The engraved line of Albert Dürer is by common consent esteemed the supreme example of mastery; its quality can scarcely be hinted at by process-blocks, in which the texture is given by an assemblage of dots. Engraved copies which are adequate for study cannot be printed with letterpress. In the wood-cut, on the contrary, it is the original surface that prints, not the engraved line; it is therefore a form, in fact the first origin, of type, and the natural method of illustrating the printed page. A remarkable development of the convention already noticed

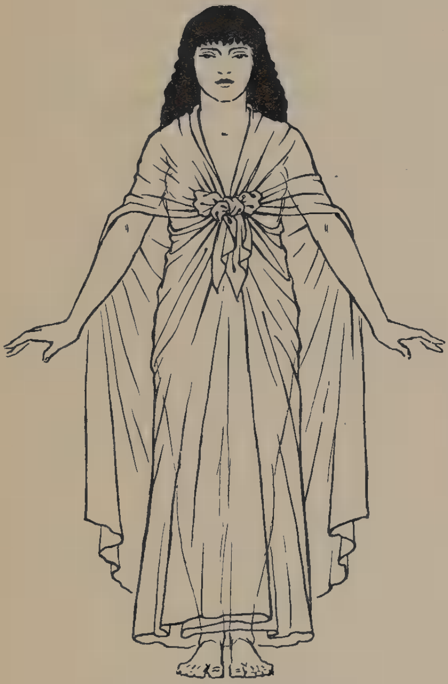


FIG. 23. Archaic Egyptian drapery

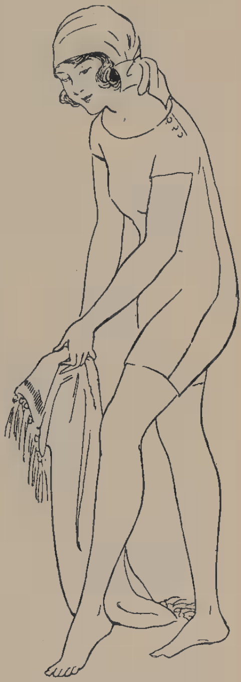


FIG. 24. Modern advertisement design

(p. 23) of making the containing-line do duty for a space may be found in the pages of *Punch*, where in the work of Leech, Keene, du Maurier, and their successors, rendered by wood-engraving, modelling and tint are suggested by devices of the utmost simplicity and economy of means, especially in the faces. Though these artists made use of shading in the accessories, simple lines have been used by others to indicate the folds of drapery which, like landscape contours, do not present truly linear edges. Thus Miss Houston's reconstructions of archaic Egyptian drapery reveal by pure line drawing the scheme of the folds and their similarity to classic as well as to modern Eastern forms which the peculiar convention of Egyptian art obscures. These drawings are the more important from their connexion with a school of dress-design, and tell of skill in handling draperies which should go far towards solving the problems that perplex sculptors and painters. Already we may discern the influence of this teaching on advertisements, which, in spite of exaggeration, are often interesting studies in line, showing fresh observation of unhackneyed attitudes not unworthy of comparison with classic figures.

IV

Planning to scale. A cottage in plan, elevation, and perspective, and a picturesque sketch. The plan and the map. The use of colour in mapping and the transition from Topography to Landscape.

WHILE pictorial drawing aims at representing things as they seem to the eye, geometrical drawing to scale, as already suggested by the comparison of the coarse canvas used for wool-work with the finer mesh of the sampler and by the instance of similar triangles, is an endeavour to give a measurable account of their actual size and shape. Thus starting with the plan of a room we might make an inch on the drawing represent a foot, and so $\frac{1}{12}$ inch would be an inch, and we could proceed to mark the places of the carpet and the furniture in the same

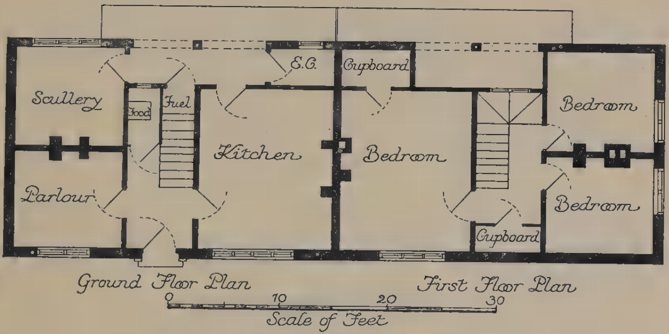


FIG. 25. Plan of a cottage

proportion; proportion being used in the same sense as in geometry, and scale referring to the actual measurement in feet and inches. On the scale of one inch to the foot a plan of one room may take a large sheet of paper; so when a whole floor or several floors of a house have to be shown on one sheet a smaller scale must be used; say $\frac{1}{4}$ or $\frac{1}{8}$ in. to the foot, and instead of a tape or measuring rod, as in laying out a tennis-court, we use a rule or scale in which smaller fractions of the inch stand for feet and inches. It is obvious that less detail can be shown on a small-scale drawing than on a large; so, given the size of the paper, the choice lies between delineating a small area in much detail and giving a less complete account of a larger space. When it comes to setting the house among gardens and fields it may not be possible to show even the separate rooms, but only what is called the block-plan of the whole building. To those familiar with them nothing can seem more simple than such plans

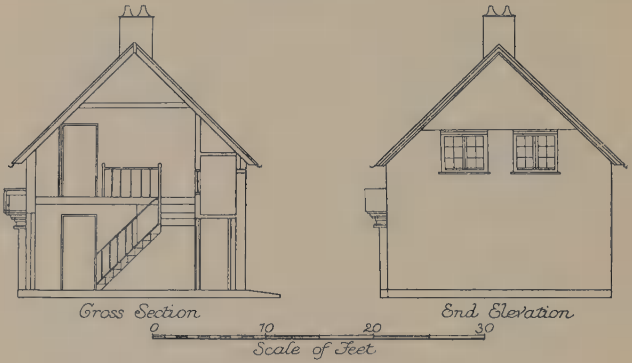


FIG. 26. Section and end elevation of a cottage

as these: yet many people do not easily acquire the art of reading them; nor did the making of them come by nature, but like the contrasted art of drawing in perspective, it was reached by a long course of experiment, some record of which is preserved by Egyptian drawings which are half plan, half picture. In the process of construction besides plans, which are horizontal diagrams, vertical diagrams called sections and elevations are wanted.

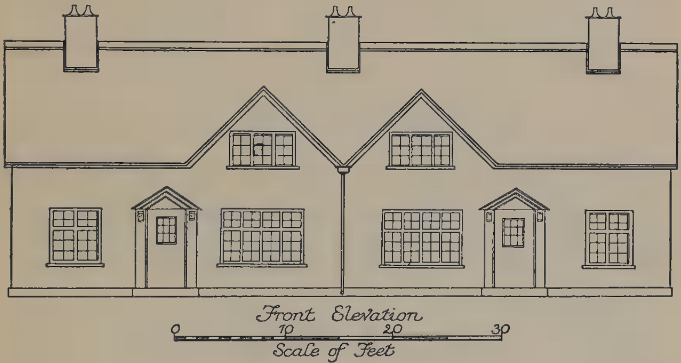


FIG. 27. Side elevation of a cottage

These also have to be made to small scales for the general arrangement and to larger scales and even full size for the parts in detail. Perhaps for a simple type of cottage such a set of drawings as is here reproduced would be enough for the builder, with a short descriptive specification. But there might be some concerned who lacked the trained imagination to foresee what diagrams imply, so for these a sketch is made according to the common rules of perspective which enable us to draw just such an outline as could be traced on a piece of glass held between the eye and the object. Though both apply similar geometrical rules the maker of a picture and the architectural draughtsman are really doing quite different things. The pictorial sketch will be an impression of the weather-beaten building, with its details confused by atmosphere and vegetation. The architectural perspective, instead of being a record of things seen, is a forecast of things intended.

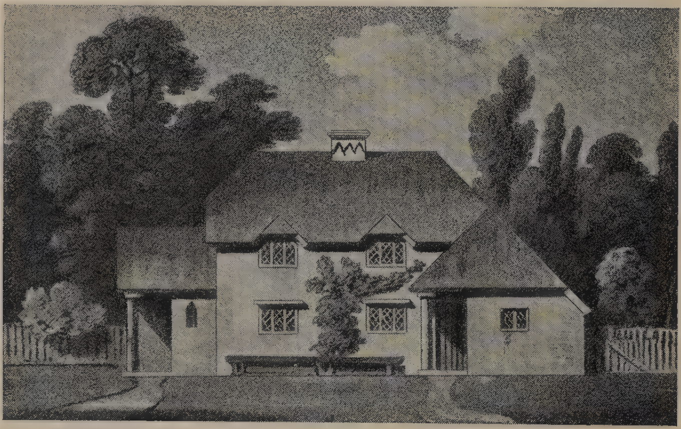


Fig. 28. Perspective view of a cottage

As the range of the plan increases, and its scale and the definition of detail correspondingly diminish, it presently passes into being a map. The distinction is not precise, but it may be taken that on a plan everything shown is to scale; that the size of a building or the width of a path can be measured correctly on it. But coming to the ordnance map on a scale of one mile to the inch, if the attempt be made to measure the width of a country road, which might be about 30 feet, it will be found that the double line which represents it occupies on the map what by the scale would be about two hundred feet. In the maps of an ordinary atlas instead of a mile to the inch some thirty may go to the inch in a map of England, and several hundreds to the inch in the maps of continents, so that in these towns are shown by dots and rivers by lines far exceeding the true size to scale. Both pictorial representation and planning to scale have given place to a set of signs and tokens. Sometimes these are based on pictorial origins as when railways are distinguished from other roads by a suggestion of the sleepers, but they are often purely arbitrary, like the different sets of dots and dashes which indicate footpaths or boundaries.

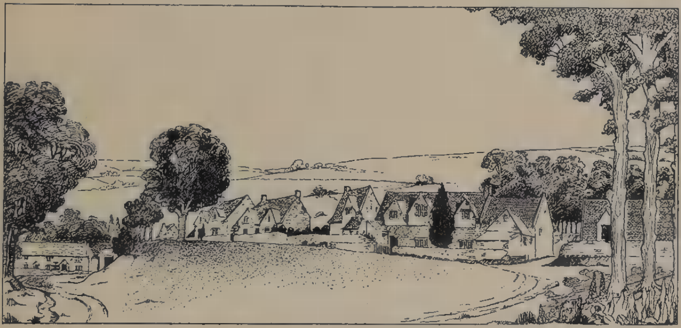


FIG. 29. Pictorial sketch of a group of cottages

In the application of the geometrical properties of triangles to surveying, the dimensions are at first within the stretch of the garden-line, of tapes, and measuring-rods, so that all three sides of a triangle can be established by direct measurement. But as the area to be surveyed increases, instruments such as prismatic compasses and theodolites are employed which, starting from a known base, measure the angles instead of the sides of successive triangles. Not only is time and labour saved by these means, but innumerable obstacles to direct measurement are overcome. Thus in the ordnance survey of these islands one set of great triangles extended from Snowdon in North Wales to Precelley in Pembrokeshire and to the Wicklow Mountains in Ireland, two sides crossing the sea and the third passing over rugged hill districts. But while these determine fiducial points the detail has to be filled in by careful ordinary and conventional drawing. As always, it is necessary to decide exactly what has to be told and how much information as to the particular piece of earth can usefully be transferred to a given sheet of paper, and then to select the hieroglyphic signs best suited to the purpose. Take, for instance, this section of the old ordnance survey map of Sussex in which the general relief of the land is shown by carefully engraved hatching, depicting the summit ridge of the district; with a system of streams, like the ribs of a leaf, gathering their waters to join an upper reach of the Medway where the spurs of the ridge die down into a marshy valley. Though actual heights are not figured the close lines of hatching mark the steepness of the slopes, while the meandering curves of the river suggest that the valley is broadly flat. This map was engraved about a century ago; still older maps are dotted with little pictures of hills, just as Egyptian plans were dotted with elevations of buildings and trees; gradually these were systematized into the hatched lines which are part of the alphabet of the map-maker's language. A more recent map of the same district does not at first glance seem to tell so much about the relief of the land. Instead of the hatching, the summit of the ridge is denoted by numerals, and at intervals round them are lines forming irregular closed curves, called contour-lines,

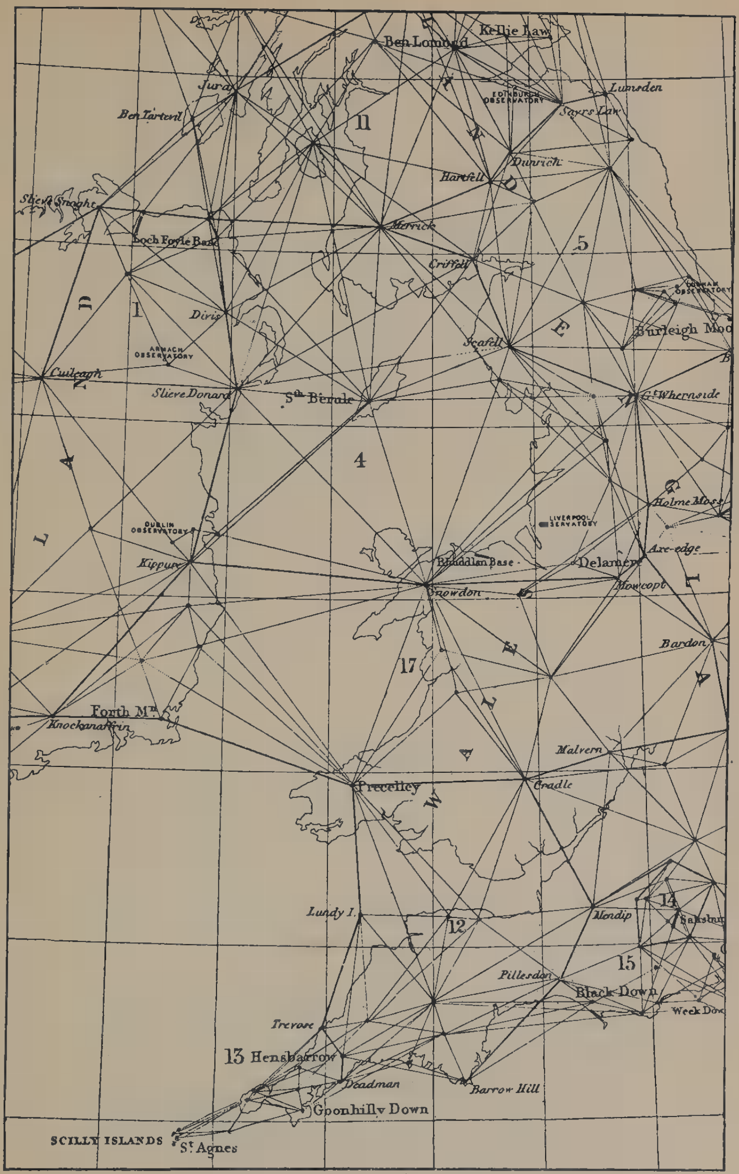


FIG. 30. Survey by Triangulation

spaced at 100 feet apart; that is to say, passing from one to another of these means ascending or descending 100 feet. The first method gives a swift impression, the other a measured statement, and both, and also a combination of the two, are useful. From either it can be learnt that a ridge of hills curves round a fan-shaped hollow, made of many little valleys separated by ridges with streams at the bottom which all meet in the main valley, across which to the north are the slopes of a lower ridge of hills. How would the prospect be treated pictorially? To this question the landscape-painter might give a different answer hour by hour; so various are the effects of changing seasons; of sunshine and shadow; of cloud and mist; and all that is comprehended in the word atmosphere. Sometimes the chief impression is that of the fan-like hollow, and the view is seen like the pattern on a half saucer. Then a change in the light enforces the profiles of the intervening ridges as if set upon planes, retiring one behind another up to the dominant ridge which closes the horizon. But at all times the roughest attempt at sketching will show that contour is far from being the only component of landscape; woodland and pasture, plough and waste, intermix and modify the detail of the relief, sometimes emphasizing the ridges, at others masking the depressions, but always modifying the texture of the scene. Just as in the map, it will not be found possible to transfer to the picture all that is seen; still less all that is known or suspected; in each case the decision between confining the record to what is at the moment prominently seen, or interpreting the view in the light of experience, must depend on the purpose which inspires the artist.

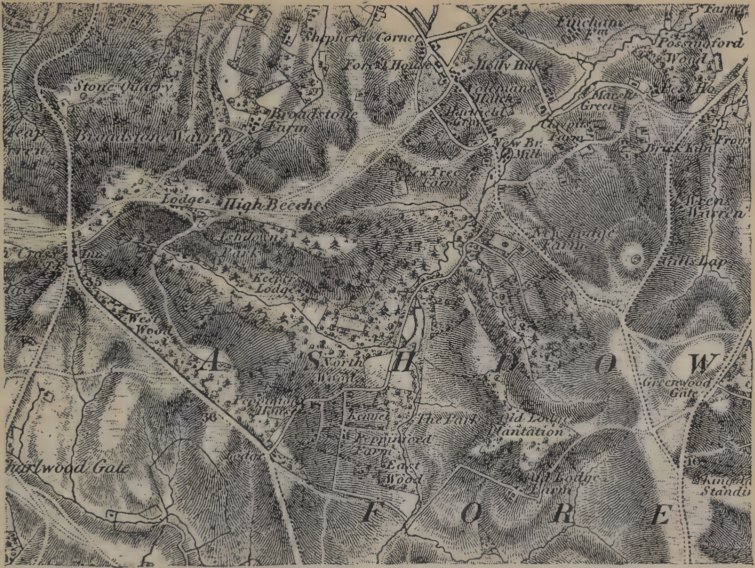


FIG. 31. Section of old Sussex ordnance map

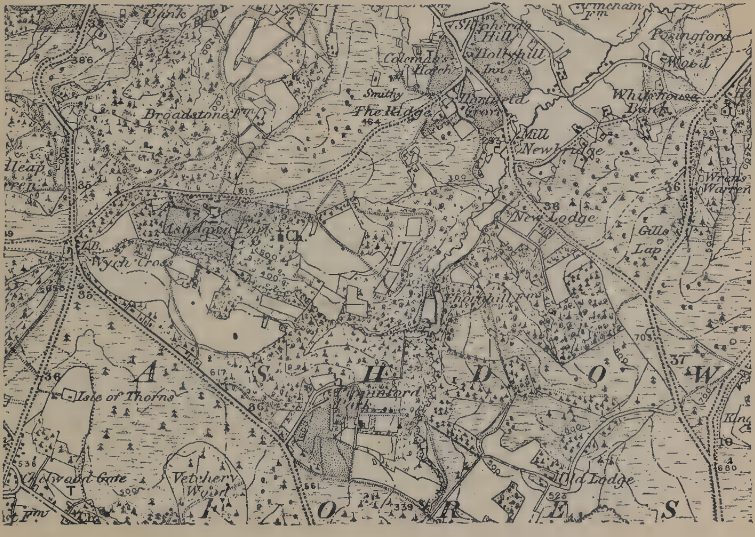


FIG. 32. Same section showing contours

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So far the resources of topography, that is, the description of places by drawing, have been taken as limited to a single tint, as of plain pen or pencil. By the use of additional colours much greater variety of impression can be given without confusion on one sheet. If contour-lines be printed in red, streams in blue, and roads in brown, each will be easily picked out. Counties may be distinguished from each other by different colours, woodlands and parks be shown as green, or the relief of the country can be emphasized by tinting each successive rise of say 100 feet a different shade; or again the succession of rocks and soils on a geological map may be distinguished by the use of appropriate colouring. Then there are maps which indicate in this way the race of the inhabitants, their religion or their politics; their industries or the crops the land produces. All these are instances in which drawing is used to show comprehensively at a glance what it would take a long string of words to express, and that imperfectly. Just so the architect and the engineer employ colour to denote the various materials of the structures they plan. There are also devices by which monochrome can in part replace colour; and long ago conventions were devised to express by dots and lines the positive colours of heraldry. Similar conventions are of frequent use when colour-printing is impracticable. Thus, in a portion of the geological map of the New Forest here reproduced, the beds of tertiary age are distinguished by different symbols. The successive beds of clay and gravel correspond in an interesting way with the contour-lines on a second map, in which again appropriate signs are used to suggest the character of the land and the mingling of oak and fir in the plantations; such details not of

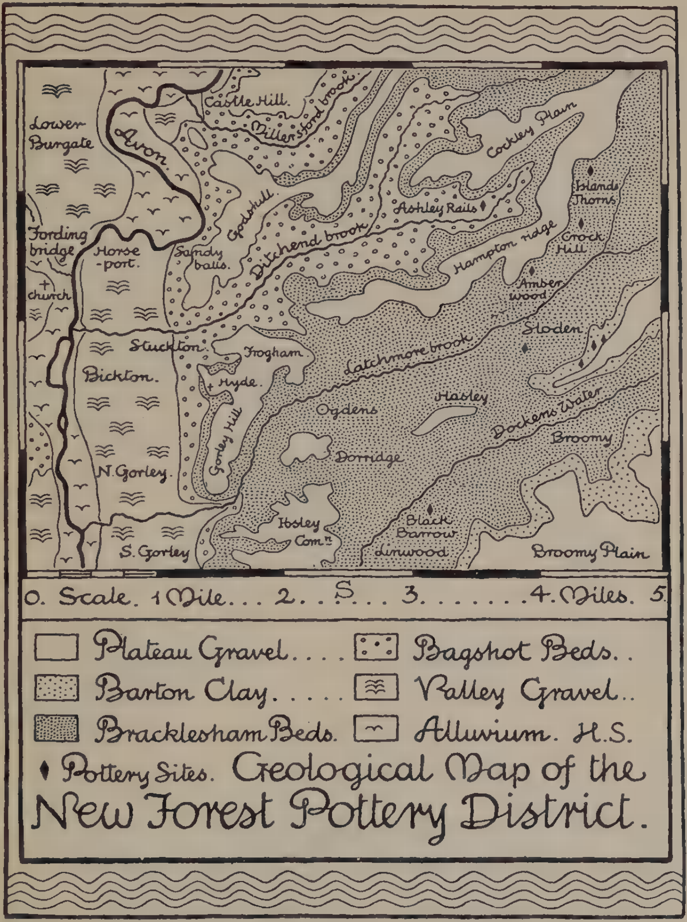

Lower Burgate
Avon.
Castle Hill.
Millersford brook
Godshill
Sandy balls.
Fording bridge
Horse-port.
church
Ditchend brook
Cockley Plain
Ashley Rails
Islands Thorns
Crock Hill
Hampton ridge
Amberwood
Sloden
Stuckton
Frogham
Latchmore brook
Bickton.
Hyde.
Hasley
Ogdens
Dockens Water
Broomy
Gorley Hill
Dorridge
N. Gorley.
Ibsley Comn
Black Barrow
Linwood
S. Gorley
Broomy Plain
0. Scale. 1 Mile. . . 2. . S. . . 3. . . . . . . 4. Miles. 5.
Plateau Gravel. . . .
Bagshot Beds. .
Barton Clay. . . . .
Valley Gravel. .
Bracklesham Beds.
Alluvium. H.S.
Pottery Sites.
Geological Map of the New Forest Pottery District.

FIG. 33

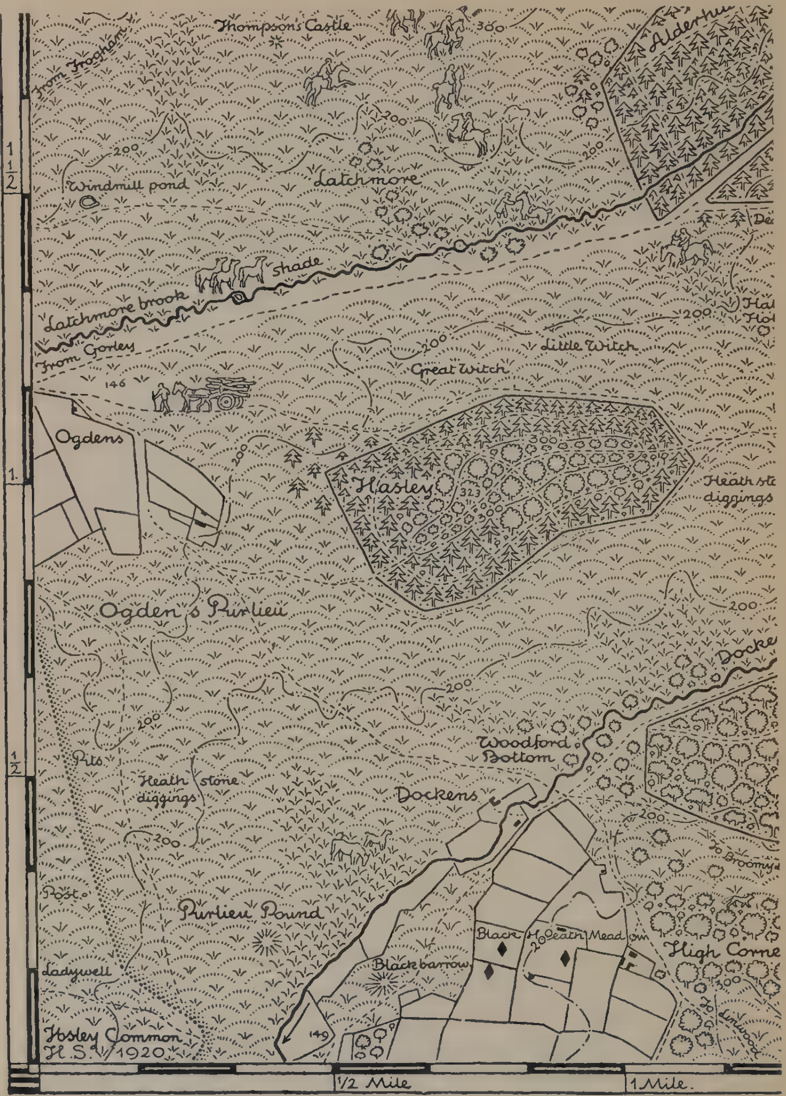

From Frogham
Thompson's Castle
300
Alderhi
200
200
200
Windmill pond
Latchmore
De
shade
Latchmore brook
From Gorley
200
Hal
Hol
200
Little Witch
Great Witch
146
Ogdens
200
300
Hasley
323
300
Heath st
diggings
Ogden's Purlieu
200
Docke
200
200
Woodford
Bottom
Pits
Heath stone
diggings
Dockens
200
200
To Broomy
Post
Purlieu Pound
Black Heath Meadow
20
High Corne
Blackbarrow
300
Ladywell
Ibsley Common
H.S. 1920
149
1/2
1.
1/2
1/2 Mile
1 Mile.

FIG. 34

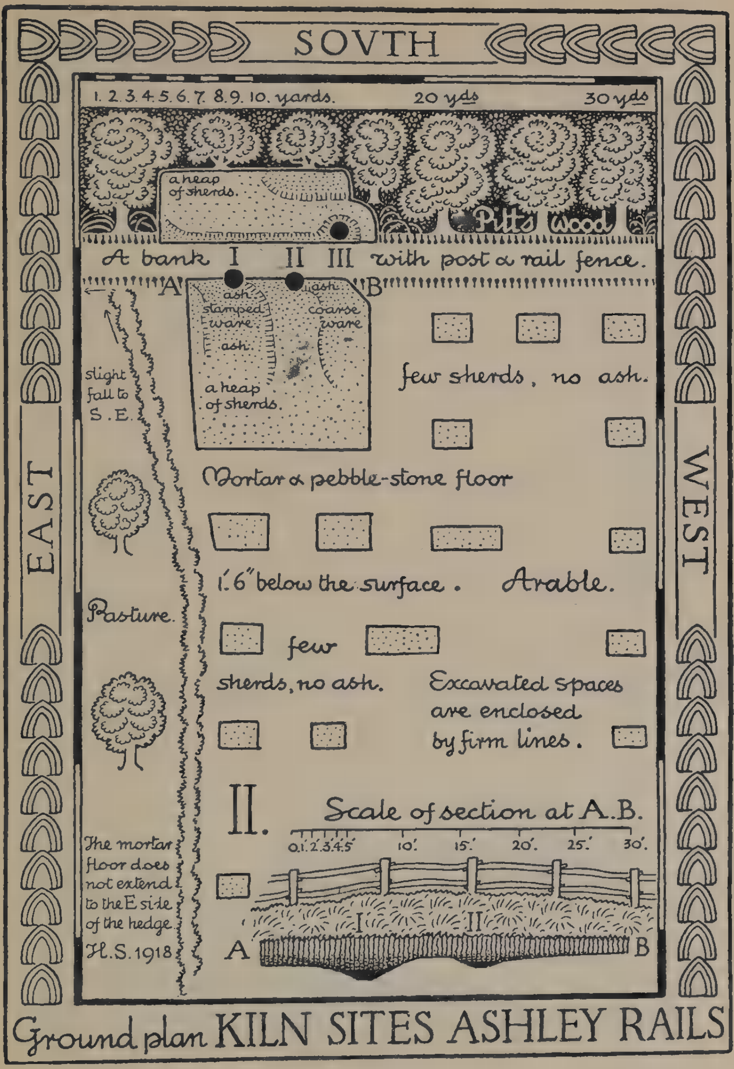

SOVTH
EAST
WEST
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. yards.
20 yds
30 yds
a heap of sherds.
Pitts Wood
A bank I II III with post & rail fence.
A
B
ash
stamped ware
ash
coarse ware
ash
a heap of sherds.
slight fall to S.E.
few sherds, no ash.
Mortar & pebble-stone floor
1′.6″ below the surface.
Arable.
Pasture.
few sherds, no ash.
Excavated spaces are enclosed by firm lines.
II.
Scale of section at A.B.
0. 1. 2. 3. 4. 5′ 10′. 15′. 20′. 25′. 30′.
The mortar floor does not extend to the E side of the hedge.
H.S. 1918
I
II
A
B
Ground plan KILN SITES ASHLEY RAILS

Fig. 35

course to a measured scale. On a third delineation of a smaller plot, certain details of an ancient pottery kiln, as also the sectional elevation of the excavation, are drawn to scale—these then are three stages in the transition from view and plan to map, each employing arbitrary signs as well as those which retain a pictorial suggestion. All fulfil a purpose of giving certain definite information in a manner artistically pleasing. A further step is illustrated by Mr. E. H. New's drawing of Easedale. In each instance the selection by the artist from what he sees and what he knows is settled by the purpose of the drawing. The final transition from topography to landscape comes with the acceptance among its purposes of the representation of atmosphere; of the ever-varying influence of light and air, often mingling with these not a little of human emotion.

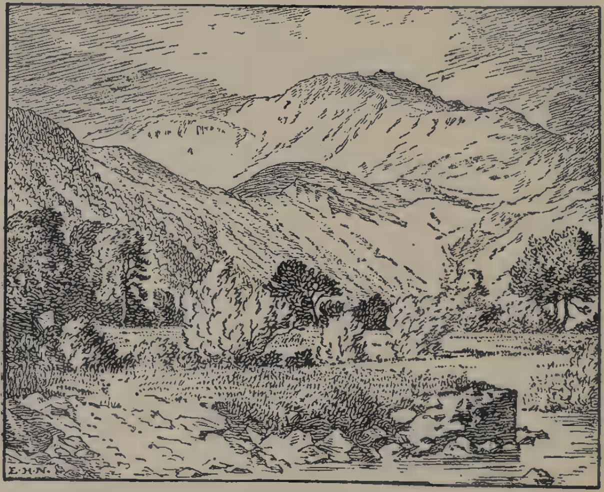


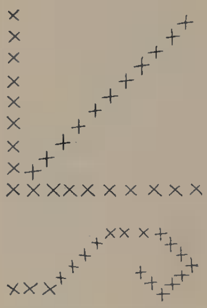
Fig. 36. Easedale

V

In the patterns of textiles lines are broken into dots by the stitches; this leads to conventional design in which naturalism is limited by material; with pottery also conditions of material lead to appropriate conventions. Tapestry and other hangings. Pattern in drawing and in music.

BY reason of a record continuing for several thousand years, as well as the fact that from ancient Egypt the Greeks borrowed those dim beginnings of art and science which it was their glory to expand into the first flower of Western civilization, it is to that country we look for early developments of the instinct for portraiture among a people who built themselves houses of brick and quarried stone. Of the form of drawing which evolved from weaving we get a hint in the description of the tabernacle which served the children of Israel instead of a temple, when after the exodus they resumed the nomad habits of their Arab ancestors. But the study of an art expressed in fabrics less enduring than the rocks can be more safely pursued in the much later work of Persia some five centuries ago, which, since it has profoundly influenced modern European design, throws light on many aspects of decorative draughtsmanship.

Careful inspection of the wool-work kettle-holder already described, or an attempt to delineate any natural object by tinting the squares of ordinary squared-paper, will make plain the limitations to draughtsmanship set by the fabric. Dot can follow dot in a straight line up or down or diagonally, but curves are broken up into short lines set at an angle of 45° to each other, so that a scroll, for instance, takes the shape shown in the annexed cut. This is the great difficulty which faces the weaver when he tires of the chequers and lines of contrasting tint which follow so readily from the mechanical process and wishes to express his fancy and the instinct for imitative drawing. It was such an impulse towards naturalism which dominated the craftsmen at an epoch when beautiful carpets were the chief furniture of a people who put their shoes from off their feet before seating themselves on the floor of the tabernacle in the wilderness, or the more permanent dwellings of the oasis. Splendid specimens of this art as it reached perfection in Persia are preserved in our museums. The designers seem to have wished to recall in the house the beauty of the flowers which, in the short springtime after the winter rains, sprang up abundantly on the plains outside. In the carpet illustrated here, within a border of conventional rather than directly imitative forms, a diagonal network forms the geometrical foundation of the design. The knots of the intersection are enriched by ornamental shapes rather less distantly derived from natural growths than the border. But the spaces of the network are filled with plants of recognizable kinds which are as like as it is possible to make them with the carpet knot or stitch. The instinct of the designer, as always, is to fill his space as though the flower had grown



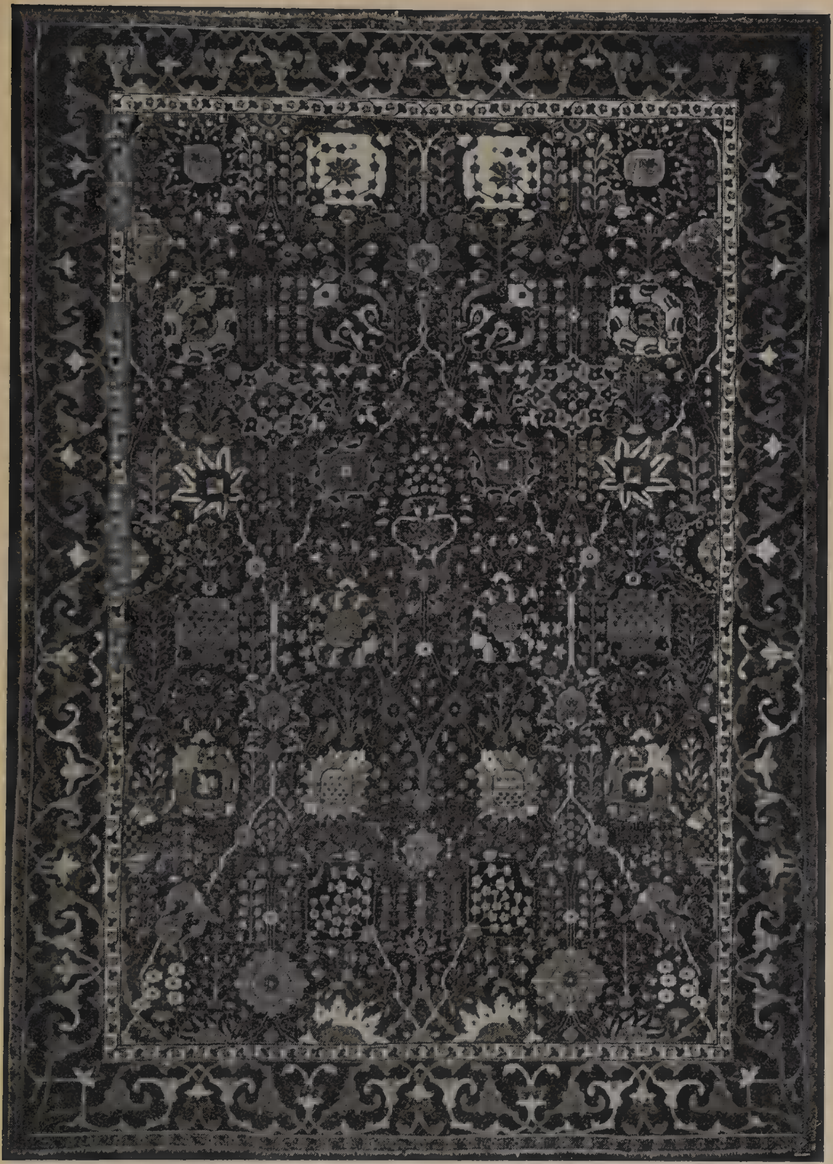


FIG. 37. Pile carpet. Persian; sixteenth or seventeenth century

into it of its own nature; to get this effect by means of a few tufts of tinted wool in positions closely restricted by the conditions of their craft was the task achieved by the carpet-makers of Persia.

Such was the art of carpet-making at its prime; but as so often has happened, a brief eminence is followed by decline, as the spirit of growth derived from original study is replaced by a formula. The weaver ceases to draw from his tulip but copies that woven by his father, and each generation gets further from the source of inspiration till the image of nature is lost in the queer blobs of colour seen in modern Turkey carpets. All kinds of art have their conventions, and their necessary limits. There is always the letter and the spirit; but the periods of pre-eminence are those when the spirit has the mastery. In the Persian carpet the letter, the convention, is particularly well defined, and the material limit is closely set. A well-preserved sequence shows how the work of the original nature-lovers took the place of nature itself to their pupils; and so generation followed generation making copies of copies till the image of nature was lost in unintelligent convention. We may also see how in the formal border and the geometric framework of the pattern the masters of the art themselves used traditional forms which they had received from earlier times. It is neither a blind acquiescence in tradition nor its neglect in pursuit of originality which marks a period of mastery in any art for 'all our methods of art are the discoveries and contrivances of generations of wise people who were physically and mentally as much alive as we are'.[1]

---

[1] Sir Hubert Parry, *College Addresses.*

Though in strong contrast as to technical conditions the work of the Turkish potters also illustrates the origin of artistic convention in the qualities of material. Physically the crafts of the weaver and the potter are very far asunder, and it is the more instructive to observe what influence the difference had on the drawing of the same flowers. The artist's palette was even more limited; for instead of the organic dyes he had only a few colours of cobalt, copper, iron, and manganese that would stand the heat of the furnace; and though a fine flow of line and gradation of tint were easily attained by a sweep of the brush, the form of the pot and the glitter of the glaze forbade close realism. So the potter-painter, while free from some of the limitations which tie the weaver, is bound by those of his own stuff; and to the question whether his painting would not be better if more like nature, the

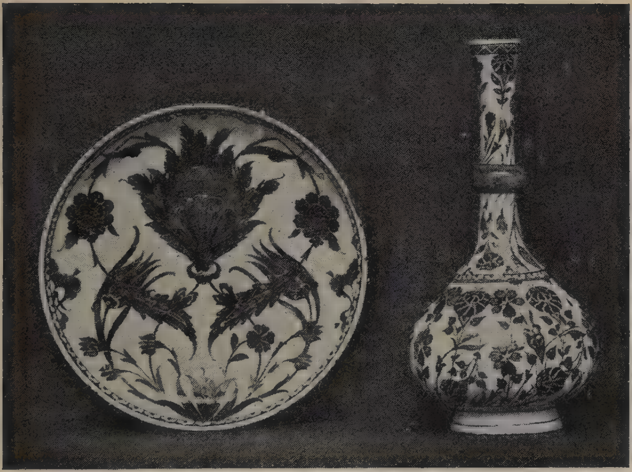


Fig. 38. Turkish pottery

answer still is, that perfect portraiture is impracticable, and therefore those qualities must be chosen for representation which are both suitable to the material and fitting to the shape of the pot; just as the pattern of a bird's feathers, or the stripes of a tiger, fit the form of the creature.

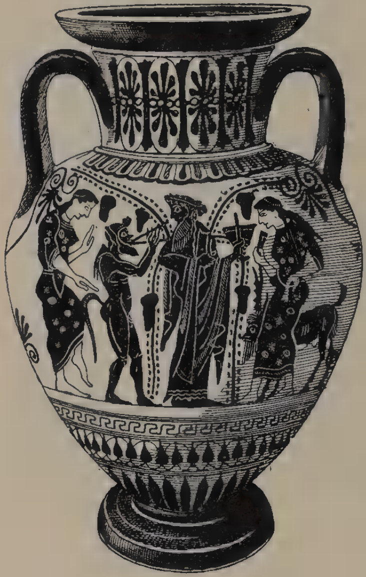


Fig. 39. Classic Attic vase

A long technical history lies between the rough earthenware of prehistoric man, decorated as we have seen with imitations of the plaiting of baskets, and the glassy surface of Persian enamelled ware; and every change in material or process has dictated corresponding modifications in draughtsmanship. It is in China that the fullest technical development of vitrified ware must be sought; while at an earlier date the highly finished terra-cotta of the Eastern Mediterranean culminated in the Classic Attic vases, the figure-subjects on which are of supreme interest as the only contemporary evidence left to us as to Greek painting in the time of its most famous masters. A somewhat similar position, but towards carpet-design instead of pictures, was held by pottery in Persia. An important contribution to the general scheme of decorative design may be attributed to the potter; this is the invention of a repeating pattern, for the pot being round there was no logical beginning or end. The idea of a pattern that repeats once started, the weaver also found it convenient, and made long pieces of stuff with the same design coming over and over again, and the pattern, which was as it were rolled round the pot placed on a turn-table, was adapted to roll round the weaver's beam; and thus originated what is now universal with our woven fabrics and our printed chintzes and wall-papers. The potters also made tiles, and they soon discovered that these being die-square the design should repeat all four ways; and presently the weavers too learnt to 'register' the repeats so that strip could be laid by strip with the design continuous from side to side as well as end to end.

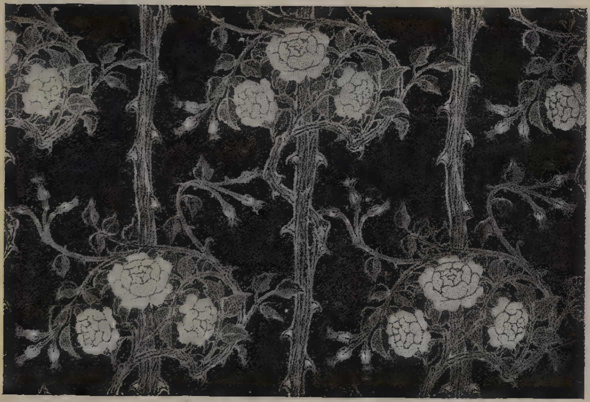


FIG. 40. A repeating pattern

The skill of a pattern designer is shown first in working out a set of geometrical guiding lines which recur in

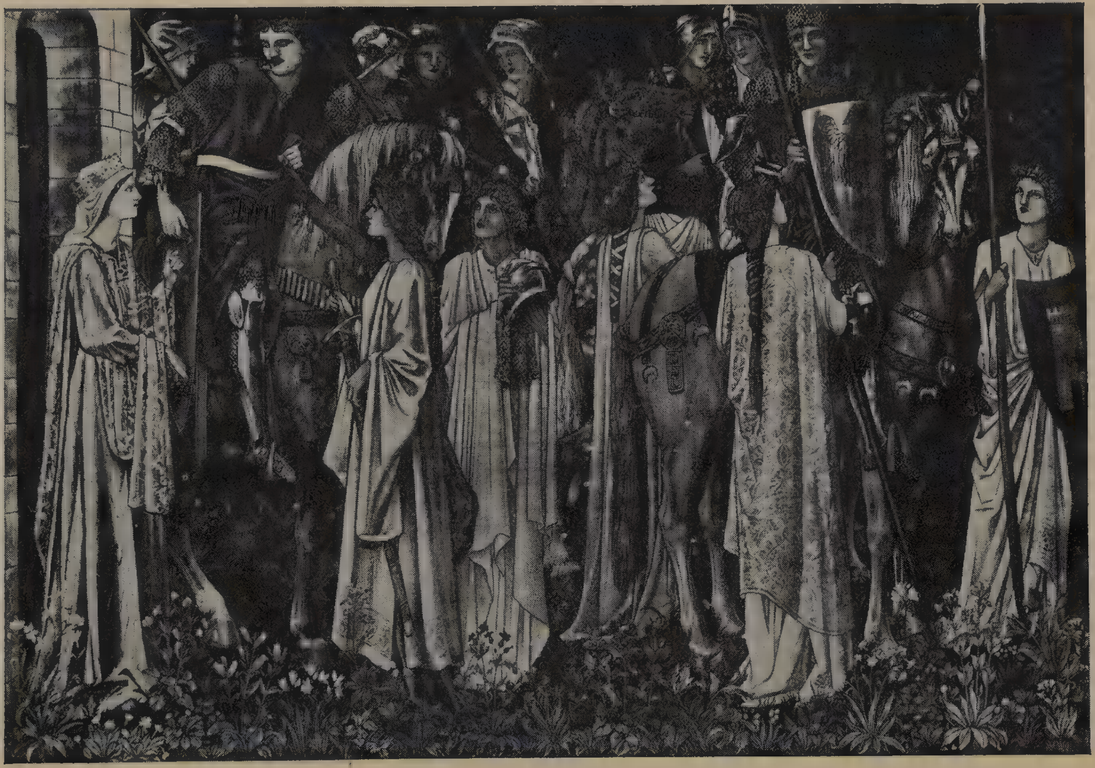


FIG. 41. Tapestry of the Arming of the Knights of the Holy Grail. (William Morris.)

length and breadth, and then in clothing these lines with pleasant forms and colours. Sometimes these are drawn with first-hand memory of natural forms ; sometimes they are copies of a long series of copies, which like much-worn coin have lost all the sharpness of a fresh impression ; but what always remains is the geometrical basis which the mere fact of repetition dictates. There are always two incitements to the making of pattern ; one is interest in the shapes delineated ; the other is the richer effect of colour produced by the diversity of pattern than that given by a flat tint. We have seen how woven texture controlled design in rugs and carpets : in brocades and damasks the only difference is that the figure is made up of parallel stitches instead of dots ; it is equally impossible to draw a curve. But if instead of weaving the pattern it is printed on plain stuff, this trouble disappears, for chintz or paper hangings allow of any degree of curvature ; though this gain brings a corresponding loss of richness of texture and a flatness of effect which the designer must reckon with.

It happened that while in Persia and the neighbouring East the art of weaving carpets was attaining a splendid perfection, in north-western Europe a different mode of weaving reached its highest development, that of tapestry. In this a drawing traced on the stretched warp-threads is worked by stitches of wool, or occasionally silk, into a coloured picture ; and about the time of our Tudor sovereigns it was the usual furnishing of good houses. The Hall of Hampton Court is an example still existing. Later it became the fashion to use silk hangings with formal patterns ; then chintz, painted or printed cotton from India, was used as a cheaper alternative ; and finally paper; at first Chinese, painted, followed by the now common printed papers. We still speak of paper hangings and the phrase recalls their descent.

Unlike the wandering Arabs who started with a tent, an affair of skins and mats, Western Europe begins its history in a house with walls, and to make some sort of plastered surface look homelike was an early problem. We have seen that the decorative arts are older than the structural and that homes were painted in early prehistoric times, but the preparation of an artificial wall-surface fit for durable painting is still a difficulty. Painted walls suffer from damp; and so in time the house-dweller took a hint from the tent-dweller and hung his walls with textiles which were altogether more comfortable than the bare plaster. The houses described by William Morris in the 'Dream of John Ball' give a vivid idea of domestic interiors in an early stage of the tapestry period in England. To realize what tapestry means we must first look at it as an alternative to wall-painting which has certain practical advantages. Then, following the story to its last phase as wall-paper, we find that this too has its practical side; for good paper has a pleasanter surface than plaster, while it is more convenient to print colour and, if desired, a pattern on the paper than on the upright wall. All such practical and historical theory is relevant to intelligent criticism or enterprise in drawing. We begin with the wall as a free space for the draughtsman's fancy and at the other end is the paper printed with quite a small number of tints in a scheme limited to a width of 21 inches and about the same height before it repeats itself. Yet in this limitation we approach some of the most pregnant analogies between drawing and other arts. Poetry has been defined as 'patterned speech', and musicians talk of beautiful curves of melody, and it is in such repeating patterns as those of prints and woven damasks and brocades that a like rhythmic effect is most clear. By comparing work of the sort with the more precise forms of poetry, such as the ode and the sonnet, or with counterpoint and fugue in music, one arrives more readily at a sense of the interplay between form and matter which runs through all art, than in compositions of more apparent freedom. But though it is easy to guess at a philosophical basis for these resemblances in the science of number, their value to the working designer is to be found rather in the direct sense of their expression of human emotions by means of artistic form. We have seen that in drawing the geometric basis may be at its simplest merely the crossing of threads in which form and material are scarcely distinguishable. It is with the introduction of the element of imitation of nature that the question of conventional treatment, so often felt as a difficulty, arises. In the kinds of art under discussion deceptive imitation is impossible. The square tufts of the carpet, the glazed surface of the enamel, the stitch of the tapestry, each sets a limit. Conventional treatment therefore means the selection of such aspects of the subject as can be indicated by a particular process. It is because we have in Persian art so well preserved a sequence of the process of drawing plant-forms at first from nature with as much spirit as the craftsman could express and afterwards of copies of copies for generations that it is chosen as the example of the nature of pattern design.

VI

Wall-paintings formerly general in England as well as abroad. Allied forms of art are Tapestry, Mosaic, and Stained Glass and Mural Sculpture. Theory of decorative art. Miniatures in manuscripts: wood-cuts in type. Rolls and advertisements.

WHILE it is common knowledge that the tombs of the Pharaohs were adorned with drawings the intention of which was no doubt consciously decorative but was even more decidedly historic, telling the tale of a monarch's reign, it is not so well realized that here in England the whitewash that so often covered the smooth plaster in our churches frequently hid elaborate pictures of religious story, and that of old, no building was considered finished till it was painted. But unfortunately for our sense of art, the subjects depicted came under the censure of Puritanism, and not for the first time in history, the charge of idolatry proved fatal to much that was precious and beautiful. Thus it happens that many generations have grown up without a tradition of fine wall-decoration, so that we are apt to think of it as ancient history, to be studied abroad or in museums, instead of an influence in the life of to-day.

What is broadly described as decorative art is generally classified according to the mechanical and chemical methods employed; thus in fresco the pigments are bound together by fresh lime; in tempera size or albumen is used; and there are many more processes which together with mosaic, stained-glass, and tapestry, as well as certain forms of sculpture, depend upon closely related types of drawing. Some of the conventions which follow from the material of tapestry and other textiles have already been mentioned: the difficulty for us is to realize how far the traditional treatment is the necessary result of process, and how much is merely archaic; whether a freak of past fashion, or the simplicity of immaturity. Difficulty is often found in understanding the nature of conventional treatment in decorative art. It is not arbitrary, but follows necessarily from conditions imposed firstly by the raw material and secondly by position. So in the Persian carpets and pottery the facts of the visible world which would most adequately convey the desired idea are selected by designers of originality, and followed later as a matter of habit, or tradition.

The conditions under which actual illusion can be produced by painting involve fixing the position of the spectator so that he cannot look outside the limits of the angle of distinct vision for which the perspective and the light and shade are calculated. But it is not possible to fix the point of station and consequent point of sight in general decoration: all the walls have to look well from any part of the interior. The problem, though in an exaggerated degree, resembles the musical difficulty of temperament in keyed instruments. It is not possible that the perspective and the shadows should be correct for all views, even of one wall; therefore marked effects of perspective and light and shade, precisely what realism demands, must be avoided. The result is a certain flatness, which is often thought to be an affectation but really is inevitable under the conditions, and so far the matter is mainly a problem of draughtsmanship. Other points arise from the nature of the stuff and the processes of handling it, which may be distinguished as problems of craftsmanship. As to these much has been written in detail; it is their place in the general scheme which is under discussion with a view to appreciation of old work or the choice of methods for new.

True fresco, only known in England by detached fragments in museums and a few modern experiments, is the grandest type of decorative painting; yet it is tied and bound by the mechanic craft of the plasterer, which incorporates it as an intimate part of the wall-face. Certain distemper paintings most nearly approach its qualities; for instance Raphael's cartoons. Oil painting is so associated with a closer approach to realism as to give an unconscious bias incompatible with satisfactory decoration. The artist has also to meet difficulties arising from the chemistry of lime. But whatever the medium, the quality of the plaster is a prime consideration.

Tapestry, hung directly on the wall, is of far more historic interest since its effect in modifying echo and resonance gives it acoustic as well as decorative importance. The painted cloth well known to our ancestors as an alternative to tapestry is now forgotten except as used in theatrical scenery. For though in the form of a map mounted on a roller and hung from a batten at the top it is familiar in schools, its value has been overlooked by artists. Yet a painted canvas hung by rings or loops and weighted along the lower edges by ornamental forms, like the bells and pomegranates which served as dress-weights on Aaron's robe, would meet many requirements in decorating the wall both for instruction and sheer beauty.

Though not used as actual hangings, the decorative possibilities of maps have been recognized by the railway companies, and especially by the London Underground;

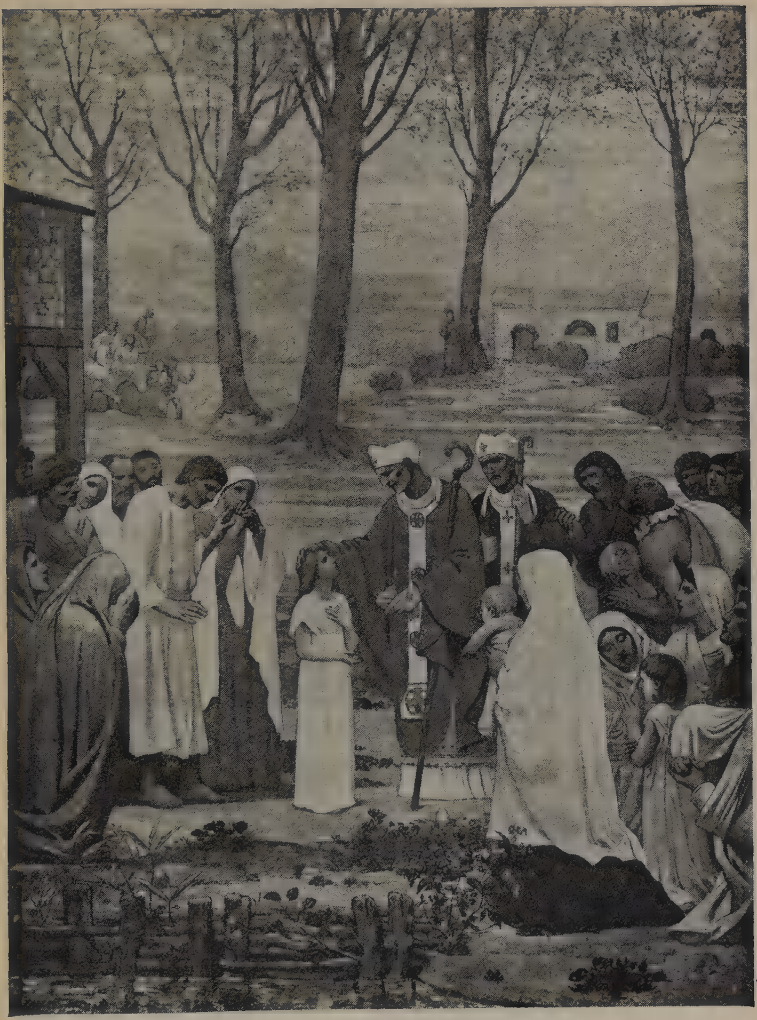


FIG. 42. Wall-painting in the Pantheon

for why indeed should utility be less compatible with beauty in a map than in, say, an ear of wheat? Wall-maps, diagrams, and pictorial hangings generally ought to play a great part in the decoration of schools and other public places; they are all forms of drawing and have a story to tell, and their production would be a test of skill and a means of artistic training.

Wherever and whenever decorative painting has been habitual the artist and those who employed him have had something to say which could be better and more beautifully set out on the walls of a building, visible to all, than written in a book, which before the invention of printing was costly and available to few. This was Ruskin's meaning when he called the imagery in Amiens Cathedral 'the Bible of Amiens'. Once again we are beginning to understand that painting may be more instructive than letterpress, and that bare whitewash is not a sure incentive to virtue.

The purpose of all kinds of painting and dyeing is to enrich the grey, drab colouring of our principal building materials, stone, plaster, and timber, by a surface film of richer hue; pigments such as ultramarine, cinnabar, or malachite; dyes like indigo and madder, which are too precious or too incoherent for use as solid stuff: and to beautiful colour, drawing adds definite form and meaning, being the connecting-link between the many processes of art. Even sculpture in the round usually begins with a sketch; the transition from relief to painting can scarcely be defined. The draughtsman's first concern is with the workshop point of view: he has to master the structural, and maybe the chemical, principles involved in the carrying out of any designs he may make. Take, for instance, mosaic, which has in its day challenged the supremacy of sculpture or of fresco. The problem is to dispose little cubes of coloured material set in cement so

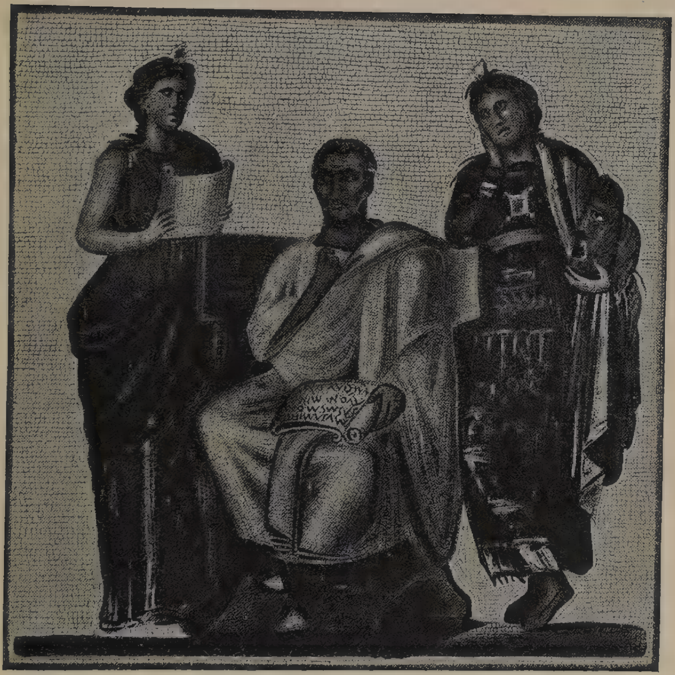


FIG. 43. A mosaic representing Virgil and the Muses of Epic and Tragedy

that they combine in a picture. Technically, an analogy to tapestry will be observed, for both work with a broken line: as free drawing is not possible, a conventional decorative treatment becomes inevitable. But since, unlike tapestry, it has a hard glittering surface which tends to kill most other materials, the placing of it in a way that will harmonize or pleasingly contrast with its surroundings is a difficult problem. The best examples of its use are all to be found where a bright climate calls for small windows and correspondingly large expanses of wall, upon which mosaic is so placed as to be far enough from the eye for dot to blend with dot in graduated spaces of colour.

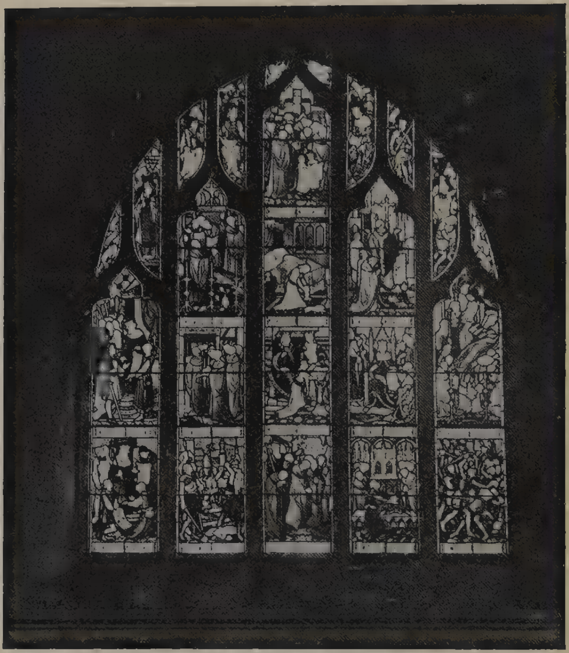


Fig. 44. Stained-glass window

Even surpassing mosaic in brilliance is stained-glass, which reached its finest development in north-western Europe, though at a later date than the mosaic of the south.

Once more draughtsmanship was dominated by the necessities of structure; firstly in the main lines of tracery in which the glass is set, and more narrowly by the lines of lead which hold together what is sometimes spoken of as a mosaic of coloured glass. But stained-glass differs from mosaic, as also from tapestry, by the decision of its line, which is not a broken aggregate of dots, but hard and precise. Yet even more than in its fellow arts the whole effect of the window is one of blending patches of colour; for

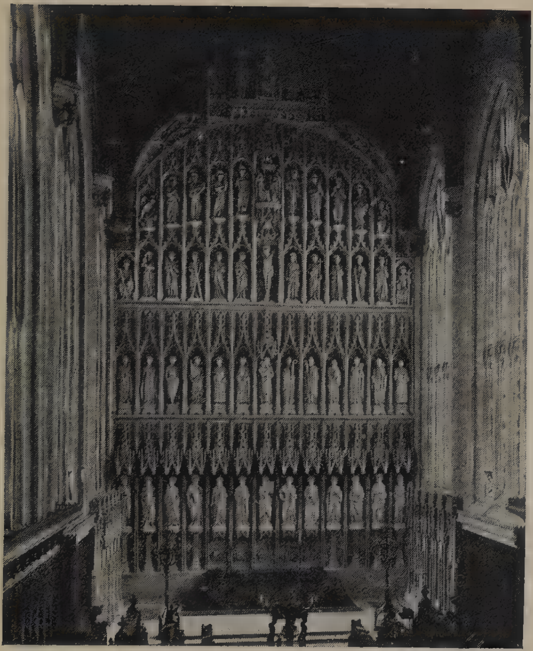
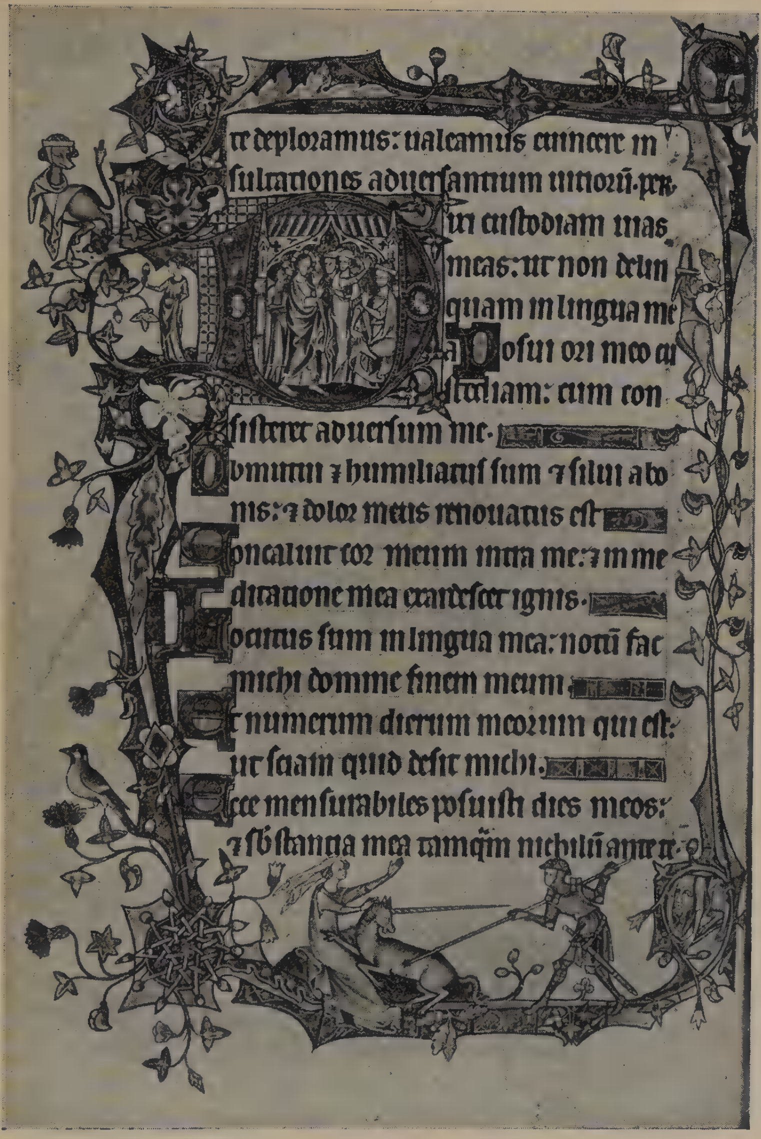


FIG. 45. Reredos; New College, Oxford

irradiation, more especially with the blues, spreads the patches so that they run into each other. Here again, of course, the close imitation of colour and light and modelling is both difficult and ineffective. So it happens that while the craftsmanship of these three arts is so distinct, yet all are served by the type of drawing which for want of a better name we call decorative, and it has often happened that the same designer has excelled in more than one of them. Though we shall find in studying the history of various arts that one art may develop into maturity before its fellows, as happened with masonry compared with woodwork in thirteenth-century England, yet the several crafts exert a marked influence on each other. Thus the great wall of stained-glass set in tracery both imitated the statue in a niche of masonry and also in turn set a pattern for it; so that the draft of the figures in say the great windows of York or Gloucester is on like lines to the reredos of St. Albans or New College, Oxford, and others mostly of fifteenth-century work. The subjects were in part the saints and prophets of religious story, in part contemporary dignitaries, sometimes labelled with names in writing, sometimes identified by armorial bearings and accepted symbols.

FIG. 46. Modern use of the primitive roll



te deploramus: ualeamus euincere in
sultationes aduersantium uiciorū. per.
Dixi custodiam uias
meas: ut non delin
quam in lingua me
a. Posui ori meo cu
stodiam: cum con
sisteret aduersum me.
Obmutui ⁊ humiliatus sum ⁊ silui a bo
nis: ⁊ dolor meus renouatus est
Concaluit cor meum intra me: ⁊ in me
ditatione mea exardescet ignis.
Locutus sum in lingua mea: notū fac
michi domine finem meum.
Et numerum dierum meorum qui est:
ut sciam quid desit michi.
Ecce mensurabiles posuisti dies meos:
⁊ sbstancia mea tamquam nichilū ante te.

FIG. 47. A page from the Ormesby Psalter

In the British Museum we can study the transition from the 'book writ large' to the portable volume in the comparison of the decorated surfaces of Egyptian monuments with the actual book in its primitive form of a roll, precisely similar in its picture work and script, and see how the same means are used to make an 'eloquent wall' and a 'speaking page'. Then we should pass on to the parallel case of European illuminated manuscripts in relation to Gothic paintings and windows. The primitive roll has been revived as a useful device in school for collecting illustrations, maps, views, diagrams, and chronology in convenient and often decorative sequence. The famous Bayeux tapestry was such a roll. It was in fact a great sampler worked on canvas with subject-headings in words to the successive pictures, and an ornamental border at top and bottom, which on great occasions was unrolled and hung as a frieze (twenty inches wide) above the pier-arches of the nave. 'The roll of the book' has thus a definite 'congregational' use, though for most purposes of individual study the volume is far more convenient. The miniatures in illuminated manuscripts bring us again to the distinction between pictorial and decorative art. Miniature originally meant marginal notes and initial letters in red (Minium) but came to carry the sense of small size when pictures were introduced among the other 'rubrics'. So that the word miniature now denotes a picture which falls short of the scale on which realism is possible while the larger decorative drawing exceeds it. In the book there is the complication that the drawing has to combine in one harmonious page with the script which, except in a frontispiece, is not merely a subordinate label. For such purposes as presentation addresses the practice of the illuminated manuscript, though sadly debased, was never abandoned; largely through the example of William Morris, it has of late been revivified, and has found notable employment in the so-called 'Rolls' of Honour. But on less ambitious planes the illustrated manuscript, whether in the form of note-book, album, or letter, is of wide interest and should be almost as universal as writing. Its value to the scientist and mechanist has been instanced above, but every amateur will find a record of sketch and script combined a lasting pleasure in the making and in the using.

With the invention of printing the illuminated book took new forms, and the wood-cut which was congenital with the type and went to press harmoniously with it, became the appropriate means of illustration; while other forms of printing, engraving, etching, lithography, which cannot be printed with the letterpress, when interleaved as plates are rather characteristic of the portfolio, or album, than the illustrated book. When so many arts of to-day suffer from humiliating reference to their greater glory in times long past and distant lands, it is pleasant to come upon one which is of our own country and but of yesterday. For it was in England and in the nineteenth century that the art of book-illustration by wood-engraving attained the most remarkable excellence. Its first master early in the century was Bewick, craftsman and artist too; but later on a group of artists, many of whom took high places in other branches of design, found congenial expression in drawing for reproduction by the skilled wood-engraver. Among these Millais and Rossetti may be instanced as pioneers, followed by Tenniel and others whose influence is still apparent in the pages of *Punch*, already cited as examples of the suggestive powers of line. Various applications of photography have made the general commercial use of this so lately flourishing craft unprofitable, but with the revived interest in beautiful typography came also the need for congruous illustration which only the wood-block supplies; and here also William Morris was a leader, concluding his life's work with the monumental Chaucer of the Kelmscott Press.

To be distinguished from the engraved block is the plank-ways wood-cut, which has certain decorative uses; especially in the printing of wall-papers and chintzes. This also shares with lithography that particular branch of wall decoration which has but recently achieved recognition as an art with its own principles of vitality, namely the advertising poster. The utmost credit is due to those schools of art which have done so much towards this recognition. A first principle of their teaching has been that the various printing processes should not aim at looking like pen-drawing or brushwork and so on; since they are methods of drawing which in their characteristic manners reach a wider publicity than the direct draft, so that they concern the draughtsman as an artist and are not mere mechanical incidents. For, though with the gain of multiplied impressions, there is a loss of something of the delicate individuality of the drawing, to ignore this loss is to increase it, and the happiest result is attained when a process is adopted with full understanding of its qualities in relation to the intended purpose.

Note. The theory of decorative painting outlined above is in the main that of Viollet-le-Duc in the article 'Peinture' (*Dictionary of Medieval Architecture*); but in practice, whether the work be large or small in size, there is an infinitude of gradations between mere pattern-work or diagram and the realism which aims at actual illusion.

VII

The place of framed pictures in relation to each other and their surroundings. The function of the frame in the theory of vision.

THE foregoing chapters have dealt with a variety of applications of drawing, in the aggregate far exceeding the making of the framed pictures which are so widely regarded as the main object of learning drawing, whether with the intention of producing them or, as Ruskin suggests, as a step towards appreciating them. But the predominant place taken by pictures in frames collected and hung in exhibitions is quite a modern incident in the history of art, though the frames themselves have their own long history. The earliest pictures tended to be vignettes, as all natural views are, from the structure of our eyes; enough was drawn to fill the eye, and outside the margin of distinct vision the picture left off. But pictorial and geometrical instincts must early have prompted a desire to finish with a border, while with the development of building the structural device of frame and panel came to define the area, familiar later on in the theory of perspective, as the picture-plane. So presently the picture took a place in the framed panel or the masonry recess corresponding with the position of a statue in a niche or the stained-glass figure in window tracery, and accordingly we find great altar-pieces with a series of pictures built up in a richly carved framing. Plain wall-surfaces were broken up into compartments for separate subjects by painted borderings, just as in illuminated manuscripts the miniatures were set in a margin of pattern. Thus arose the idea of the framed picture; one form of it, the painted wooden panel, was soon seen to be portable, and gradually the picture in its frame came to be a piece of movable furniture. It must always be remembered that pictures miscellaneously hung in a gallery are not fulfilling their true purpose. Just so clothes in a shop are on show for sale, but their final purpose is to be worn. And the corresponding purpose of the portable, or, as it is sometimes called, easel-picture is now the question. We have to consider, as Ruskin tells us, its value as a particularly precious kind of furniture for some fit place. We may think of a College Hall, with the portraits of the founder and a succession of masters and professors hung with the old oak panelling as a background: or we may think of a city council room, again with portraits, or perhaps pictures of incidents in local history. Now the first consideration in judging of such works is that of scale, both in size and force. Do they behave as well-mannered members of a pictorial community? Or does one try to shout another down, by exaggerated size or vehement colour? Their frames too must be accounted for in relation to the architecture of the chamber as well as to each other. These prominent factors in the choice of a painting are within the competence of the giver of a commission, and should not be left to the chance of an artist being influenced by temptation to paint something that will hold its own against all comers in the annual exhibition which is his market-place.

Nor is scale less important when pictures find their place in the home; and here we are met by the question of contrasting styles and materials. Oil-paintings and water-colours do not mix well together, or either of them with etchings and engravings, while the familiar sporting scene consorts ill with the phantasy of Botticelli. So the counsel of perfection is to allot a different room to each kind. Much, however, may be done by skilful arrangement. Take an ordinary room with the window on one side and the fireplace on an adjacent wall. The wall opposite the light is not good for pictures because of reflections, and any remaining spaces on the window side are in shade. The middle space over the fire-place is therefore the place of honour for a picture, while the wall opposite, equally well lit, offers a place of vantage second in dignity. In considering pictures as items of furniture we must not forget that other things entering into the decorative scheme take wall-space. Book-shelves especially; for books well assorted are highly decorative and their place in relation to pictures will depend on size and binding rather than content. In point of tone books harmonize well with pictures, and especially with oils, and luckily look best in the front light which is worst for pictures.[1] They tell as substantial projections from the wall, unlike pictures which should seem to be recesses from its surface; and though really absorbers of light may, as the frequent form of eulogy suggests, appear to be luminous. For the picture should be imagined as an opening, a window in the wall, set in the frame as the window is in its architrave; differing thus from the decorative ideal of 'asserting the wall' which keeps light and shade and perspective subordinate.

[1] Tapestry also looks best in a front light.

Obviously the exhibition trick of making a portrait appear to stand out from its frame does not add to the comfort of the fireside. For apart from the choice of subject and the crowning glory of beautiful colour, what is required of the framed picture on the wall is that you should be able to look into it when you please; just as over and above the main function of letting in the light, it is a great gain if a window lets you look out into a pleasant garden or more distant scenes beyond. We have already noticed that this quality of pleasurable illusion is in part a matter of scale; that realism in art is limited by actual dimensions to the angle of distinct vision; what more than fills this approaches the conventions of decorative art, and what does not fill it approaches to the miniature.

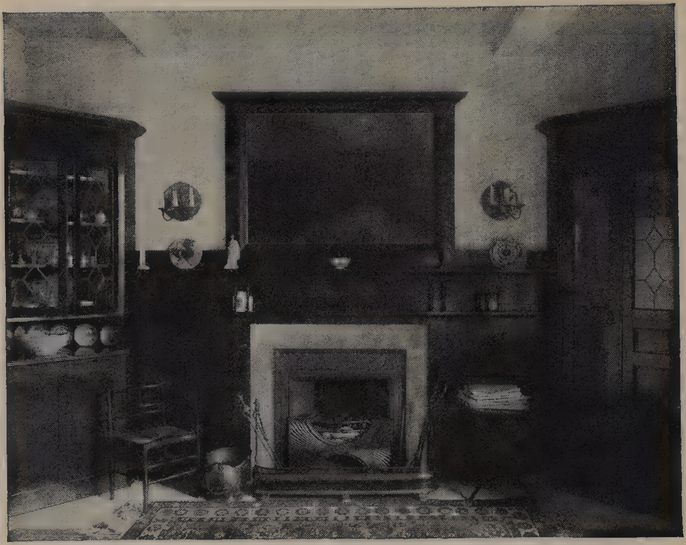


FIG. 48. A picture framed on a mantelshelf

All this has practical application to the hanging of pictures in an ordinary room. Pictures should be so spaced that on approaching the best distance to look at one picture, and discern what lies beyond the picture-plane defined by the inner edge of the mount or frame, no other picture discordant in force or quality or scale should come distinctly into view. It is in this spacing that the value in the hanging scheme of things like book-cases and the projecting chimney-breast appears.

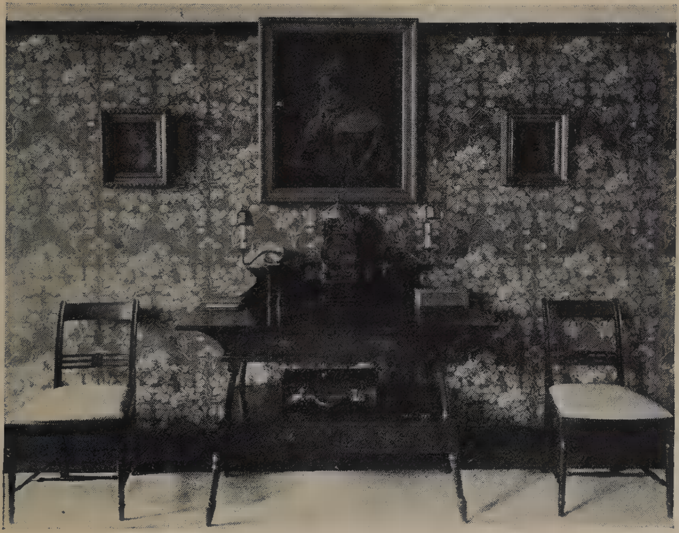


Fig. 49. A picture as a centre for others

Little things like groups of athletic teams, telling of corporate pride, and those other frames marking more intimate sympathies familiar in a college study, can be kept apart from the photograph of a Raphael Madonna, or the tinted etching of some cathedral, which takes the place of honour, by hanging them on a lower level, perhaps combining them into a frieze-like row. On the other hand a landscape in water-colour with its entirely different values of scale and tone may be given its own centre, across the room. The sense of composition can be educated in the disposition of furniture on the walls and floor fully as well as by more scholastic teaching, and in the practice of this sort of composition it is soon found that the frame counts for almost as much as the picture, especially in point of giving desirable isolation from conflicting forms and colours; such, for instance, as a patterned wall-paper, intended to supply richness of colour when only black and white is afforded by the pictures. This is why small sketches and prints are fittingly set in very wide mounts; with the consequence that on the whole they reflect light and carry it into dark spaces, in contrast with oil-paintings which are almost always swallowers of light. In this analysis the distinction between pictures and decorative work turns out to differ somewhat from preconceived opinion. It becomes a matter of size and position, and the well-placed picture counts among things of beauty, acknowledging its debt to the frame, which is so great, that it is often worth while going beyond the needs of mere protection and scheming an outer frame, especially in relation to the fireplace, which shall emphasize the illusion of a receding scene. The gain to landscape of such treatment was well known when the panels painted were those which lined the chamber walls.

Thus far we have discussed the framed picture in view of those who, though they learn drawing, do so without serious intention of producing such pictures. There are many, however, who though they could not wisely enter the market as producers, could by taking pains do on a larger scale what has been suggested for the album or note-book, and replace photography and even engraving by their own handiwork in the case of those secondary pictures which in the sitting-room take something like the place of the predella in Italian art. Granted leisure, are there not many who, without undergoing the long training required for mastery of composition in line, in colour, and in shade with attendant difficulties of execution, could by concentration on execution, copy or translate in scale and medium some favourite masterpiece with a result, less mechanically accurate perhaps than the printseller's wares, but with a touch of freedom and quality that only direct brushwork can confer?

But whether the pictorial work which takes its place in the furnishing of a room be original or copy—pencil drawing, painting, or print—it must not be forgotten how much of the effect depends upon that other sort of drawing with compass, rule, and square which regulates its framing and spacing on the wall.

VIII

The range of landscape from topography to symbolism and the corresponding range of figure painting. Portraiture with historic accessories and portraiture of the emphasized head. History, archaeology, legend, and myth in art. Decoration described in poetry: its range from the childish to the sublime. The twofold nurture of art by traditional fellowship and individual observation.

WHILE the present day is possessed of an accumulated experience derived from the past, the starting-point in the instinct for portraiture remains with us, and its transition to language in one shape or other, hieroglyphic if not alphabetic, is a continuous process, evident on the one side in all sorts of diagrams and on the other readily traced in the comparatively modern development of landscape from topography to the picturesque with its emotional appeal. Turner is a pre-eminent example of this trend, beginning with severe topographical drawings and ending with work the poetic intention of which is emphasized by the titles and the verses he quoted in exhibition catalogues. The appeal ranges from the direct pathos of the 'Fighting Téméraire' to the complicated use of myth and allegory in landscape setting exemplified by 'Apollo slaying the Python', a piece of mythology the intrinsic truth of which science is only now revealing. To compare the landscape-painter's treatment of the subject with the Apollo of Greek sculpture, or the sun-disc of Akhenaton the monotheist Pharaoh, or again with the dragon-slaying Michael of our stained-glass windows, will lead far towards understanding the technical cross-divisions of art by subject, material, and application. The two prime motives of pictorial art, imitation and symbolism, combine with geometry in the desire for decoration. Sometimes they deal with materials which, dull and little pleasing in themselves, such as oil or distemper paint, become beautiful by force of human thought and feeling. Other materials there are, the pleasant qualities of which in texture and hue maintain a decorative value long after the spirit of the symbolism has evaporated, such as we noted when the art of carpet-weaving passed into its later stages of conventional decay. It is to be wondered whether the Persian weaver of the decadence thought his spirituality enhanced when he ceased to 'consider the lilies, how they grow'.

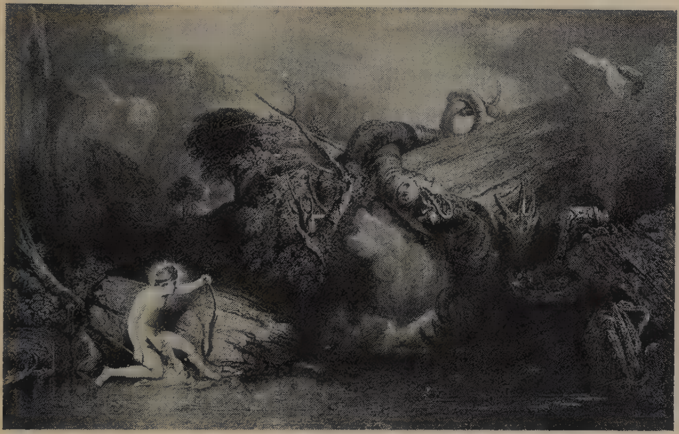


FIG. 50. 'Apollo slaying the Python'

The one kind of drawing which persistently clings closest to imitation[1] whatever the contemporary developments in other sorts may be, is individual portraiture, with the desire to perpetuate the likeness of those we hold in love and honour. Apart from statuary and the occasional introduction of a likeness into decorative design, the typical portrait is a framed picture, and as such tends towards being a realization of what could be seen within the extension of the frame considered as an aperture. As already mentioned, only a small range of middle tones are available in painting to represent the whole gamut of natural light and shade from sunlit white to absolute darkness. Accordingly there have been two opposite tendencies in portraiture. In one, the whole scene, figure and surroundings, is represented with its tones adjusted to a single scale in the available range, between flake-white and lamp-black, with a parallel series of tints for each separate colour. We may call this the Van Eyck principle, and look at the Arnolphini portrait in the National Gallery and

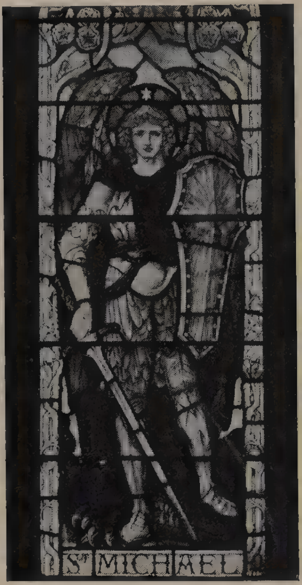


Fig. 51.

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[1] The conditions which limit imitation in portraiture are similar to those found in other branches of art. It is always a selective, interpretive process which when directed by living intelligence manifests itself as style.

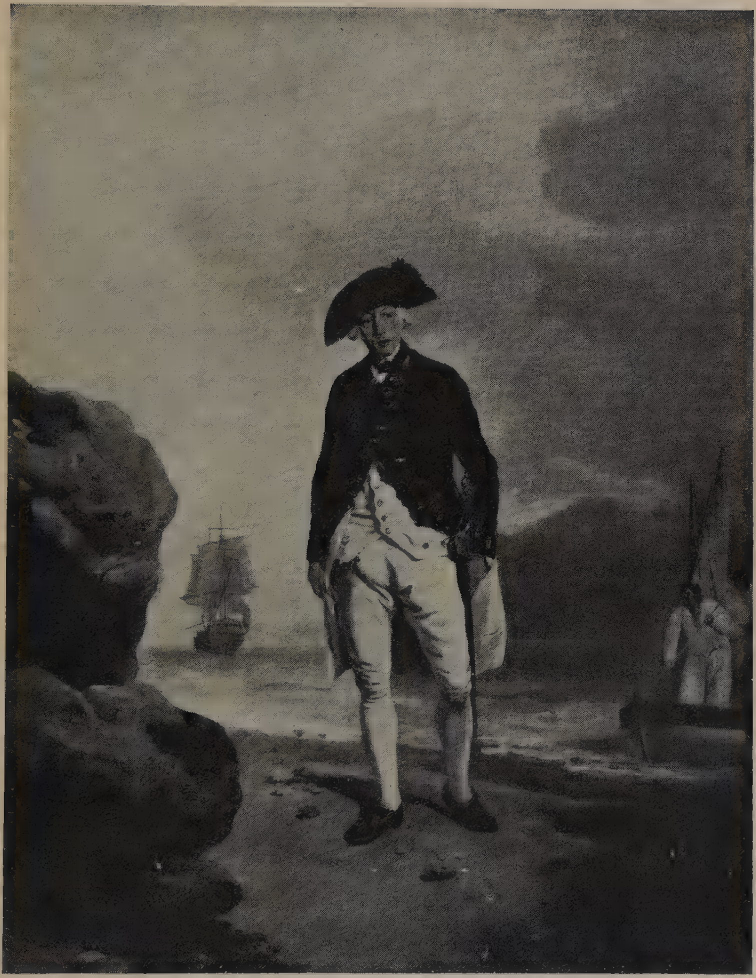

FIG. 52. Admiral Phillip. By F. Wheatley

contrast it with a Rembrandt. In the latter the face is painted, not on a scale of modified tones applied to the whole field of the canvas, but on a full scale of its own, matching tint by tint, and relieved against a featureless background. The portrait of the poet Tennyson by Watts is a fine example of this method, while the portrait of Admiral Phillip by Wheatley characteristically illustrates the other type. Instead of concentrating upon the narrow range of tones devoted to modelling the head, the resources of the palette are diffused over a wider outlook so that the scene and circumstance of his most

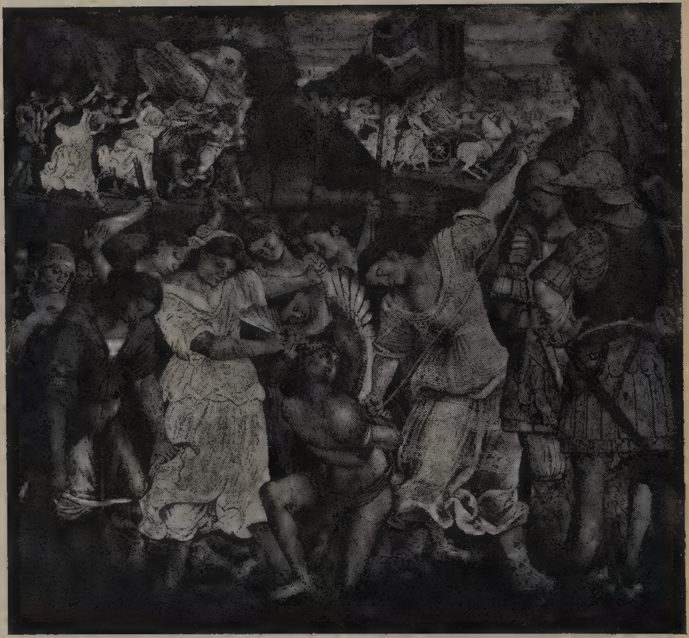

FIG. 53. 'Chastity'. By Signorelli

notable achievement take their due place in the pictorial record of the man. Something more than technicalities is involved in this diversity of aim, for this treatment is a step towards historical painting; here is the man, such his attire, and such was his claim to remembrance; and

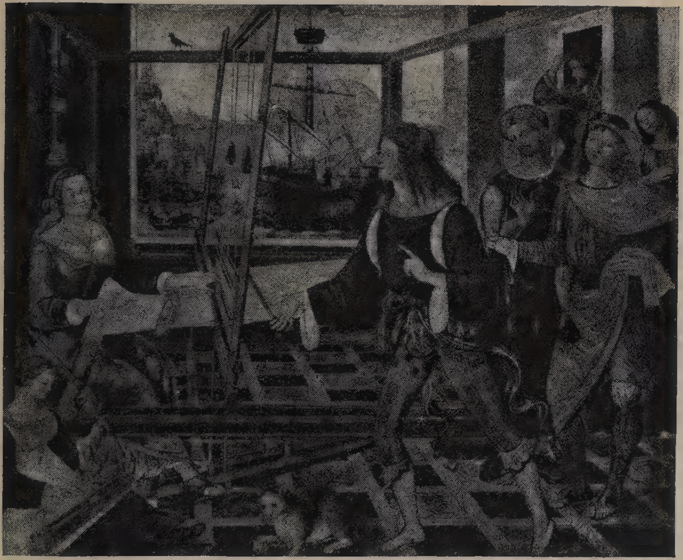

FIG. 54. 'The Return of Ulysses'. By Pinturicchio

thus something is told of his life story. Historic painting that deals with contemporary events is only an expansion of this procedure. But when historic paintings undertake to revive imaginatively what happened in the past theoretical difficulties accumulate and the demands of archaeology have to be considered. In the National Gallery a pair of frescoes hang: in the one, a mythological subject by Signorelli, the figures are clad in draperies of classic type. In the other 'The Return of Ulysses' painted by his contemporary Pinturicchio, the costumes and all accessories are fifteenth-century Italian. On a Greek vase in the British Museum the same subject is treated in the characteristic classic Greek manner. A few years ago we might have smiled at the representation of Ulysses and Penelope as fashionable Italians of the painter's time, while we should have accepted them as a half-draped athlete and an Athenian matron with no suspicion of archaeological falsity. But of late the spade of the archaeologist has taught us that in broad outlines the Trojan War is historic, and that its heroes were not equipped in the fashion of Athenians who lived centuries later. So the vase painter did as Pinturicchio did and our Elizabethan ancestors also, told their stories in terms of their own age and not of antiquity. Unluckily for our artistic peace of mind, archaeology has raised ghosts we cannot lay out of

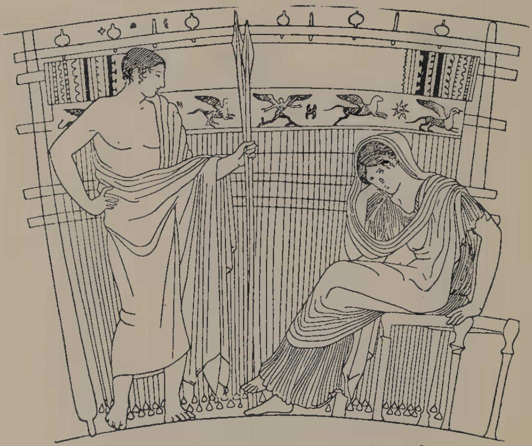

FIG. 55. 'Penelope at the loom'

hand. Of one thing, however, we may be sure, that Leech's woodcuts and Frith's pictures, and still more the works of Hogarth, are historic in a way in which Westminster Abbey monuments with their figures arrayed in classic garb emphatically are not. The problem of the treatment of myth, for instance in the Signorelli picture, is rather less difficult, for in myth and legend and fairy tale we may place ourselves in the dateless period of 'once upon a time' with the assumption of habiliments in easy relation to beautiful human forms, holding all fashion in solution and rejecting its vagaries. Such are the garments drawn by Walter Crane, and afterwards by H. J. Ford and J. D. Batten, and others. For though dates may be assigned to certain legends, an affectation of correctness in scene and equipment would spoil the glamour of their mystery. Thus, it is possible to assign a period to Theseus, whose tale is retold in Kingsley's *Heroes*; but Attic vases in plenty show how the later Greeks, from whom we know the story pictured its events, and the costume of Minoan Crete, would have been stranger to them than to us. Again, the legends of our own Arthur describe conditions of the day when the story was elaborated, eight centuries after the battle of Badon Hill, and so far as we must seek authority for the representation of a story which has made so great appeal to generations of our poets and artists, it must be looked for between the Bayeux tapestry and the manuscripts of Froissart. But all the time the object is to co-operate with poetry, with romance; to add the patterned drawing to the patterned speech, whether in a book or writ large on the wall. A different purpose, merging into that of the scientific diagram, is shown in such drawings as those in Quennell's *History of*

Common Things in England, to which the pictures in the Royal Exchange or in the Manchester Town Hall are analogous on a larger scale. In these archaeological correctness is deliberately sought; but even so there is no pretence that they are historic documents like the snapshots of a football match. They tell the story in the language of drawing, condensed and brought to a point; and in the language of speech omission and even inaccuracy cannot be avoided, though the narrator be an eye-witness.

In the beginnings of spoken language as well as in its transference through drawing to letters we have to recognize the slow growth of abstract thought and the process of symbolism, of metaphor and simile, and various degrees of personification, so that we find our common speech is largely built up of the fossil remains of what were once poetic figures. It would be the greatest mistake to assume that the process has ceased and that we no longer need poetic diction to express our imaginings. When we review the possible subjects of pictorial art the same tendency is apparent. The representation of abstract qualities by human forms and in concrete action is no less fit for the graphic arts than for literature.

So far we have discussed typical applications of drawing essentially from the point of view of craftsmanship; parenthetically we may note that the present-day desire of artists to exercise their art on a grand scale, in the decorating of places of assembly such as the church, the council-chamber, or the concert-hall, is more evident than is any opportunity of satisfying it. Portraiture, current history, and archaeology have been touched upon; the poetic story and symbolism or allegory remain. Chaucer and Shakespeare have described the treatment of these that seemed appropriate in their day; and from books and museums we may learn of the beauty created by Italian and Flemish designers. But it is Homer, the father of poetry, to whom we turn, if only in translation, for the most famous account of an elaborate decorative scheme, that of the shield of Achilles (*Iliad*, XVIII), which has been made more real for us than it could have been for Pope or for Flaxman by the discovery of metal-work coeval with Daedalus closely corresponding to the description. The crowded scenes on the shield were small in scale, but fragments of fresco have been found giving us a clue to the application of the same type of design to life-size figures. So in studying Minoan decoration we can take the embossed

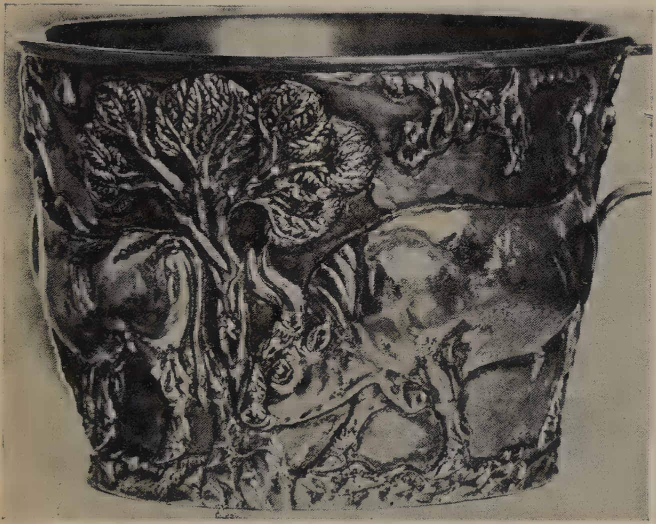

FIG. 56. Minoan gold cup. Sixteenth century B. C.

cups as analogous to an architect's scale-plan of which the fragments of fresco are the full-size detail, and complete the parallel by reading Homer for the specification. The subjects of the design range from the heavens, and the symbol of the master-mind set among the constellations, to earth with scenes of peace and war, hunters and herdsmen, harvest and vintage, bounded by the all-encircling sea with its waves as border, doubtless the familiar conventional pattern. Without attempting to add to the list of conjectural restorations of the poet's dream-shield, we can draw lessons from it for modern use. Each section is imagined as telling its story independently of any label: such scenes the poet's hearers might see in city or field at any time, in a general view of life without individual names. In this it differs from the pictures on Attic vases some five or six centuries later where the gods and heroes are given their names. Homer described designs which dealt with scenes of contemporary life; the Athenian potter's period was 'once upon a time' and names were required to identify Heracles or Perseus in their traffic with the magic of Centaur or Gorgon, and the intrigues of the gods of Olympus. The Shield of Achilles and the work of Phidias were alike 'classic' to the men of the Renaissance, and still were so when Flaxman made his well-known sculpturesque illustrations; but since the discoveries of Schliemann and Sir Arthur Evans we know that they have separate lessons for us, and we discern the difference between records of observation and the illustrations of a tale that is told.

Then, as now, drawing began in observation, which is both quickened and preserved in the process; and this is true whether the perception so cultivated be applied

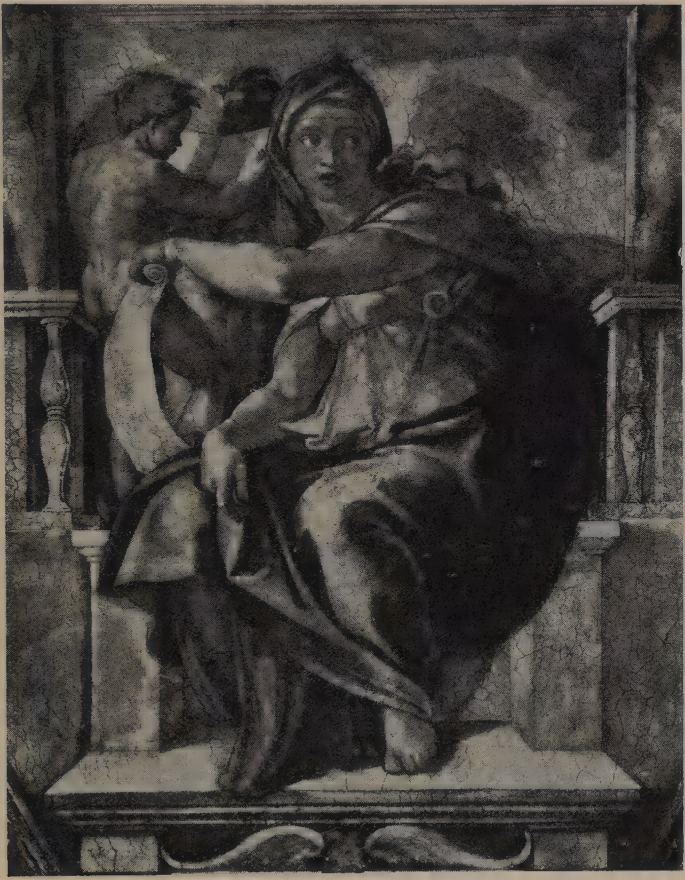

FIG. 57. 'The Delphic Sibyl'. By Michelangelo

to production or to appreciation of drawing. For thus it is that in Plato's phrase, the craftsman 'can search out the nature of loveliness and grace' and lay up material for fine art by the selection of types of beauty and strength in action and repose. Even in the hurry of the streets moments of attitude and grouping may be caught, and the sports and pastimes of an athletic people provide abundant suggestion for a quick eye and retentive memory such as was cultivated by the artists who worked for the illustrated papers before photography prevailed, with its facile gain and assuredly great losses. What is made of the gathered suggestions depends upon the mind. 'What do you mix your paints with?' 'Brains', was the master's answer; and so it must always be, whether in the record of the passing show, or historic painting tending towards archaeology, or in the 'once upon a time' of legend, and the poetic imaginings of symbolism and allegory. Spoken language has never ceased to express abstract thought by what are called figures of speech. The figures of draughtsmanship are not debarred from a similar development, either in the scientific or poetic uses of the language of the arts. Just as we accept that verse may range from the trifling of the nursery-rhyme to the organ voice of Milton telling of heaven and hell, so must the graphic arts claim no less a scope. When Michelangelo painted the Sibyls and Prophets in the Sistine Chapel, his mighty intellect infused their images with a sense of the mystery of life, awesome even on the small scale of a photograph; and in our own days there have been some whose knees trembled before the angels of judgement in Burne-Jones's stained-glass at Birmingham. Both these are instances in

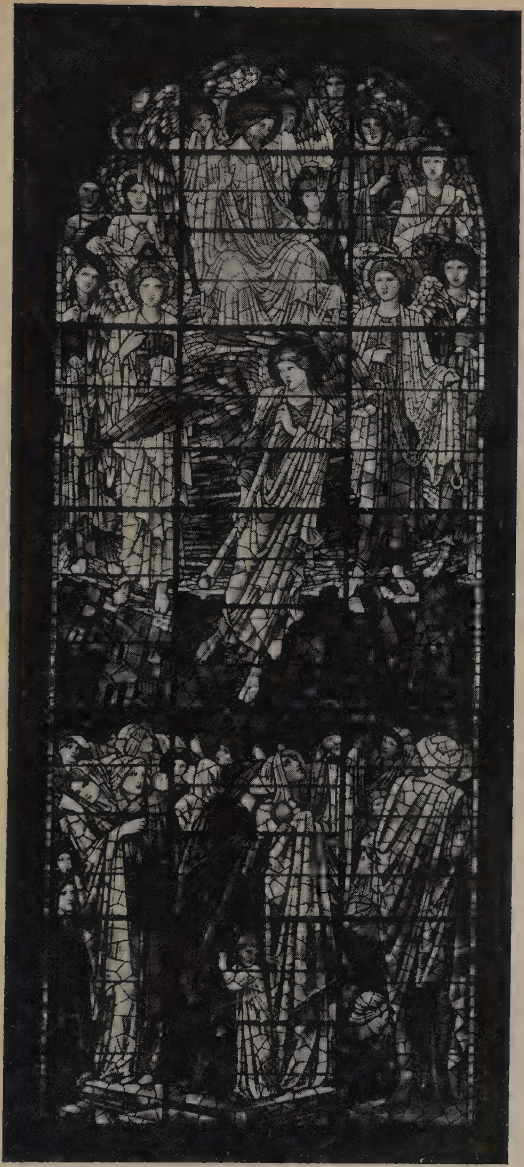

FIG. 58. 'The Last Judgement'. By Sir E. Burne-Jones

which absolute size has a full influence in the impression, however much a live imagination may discern in a small copy. Just so great volume of sound is essential to the majesty of a Handel chorus; neither can a string quartet carry the power of the full orchestra in a symphony: yet to a trained ear a piano-arrangement may serve the office of a photograph.

The analogy of music may render further assistance: for besides the composer there is need, if the art is to prosper, of a body of competent executants and intelligent listeners. The composer himself also must be one of many in a sequence of forerunners and contemporaries. So too Michelangelo, for all his pre-eminent power, stood among the men of his age not 'as one crying in the wilderness' but as first in a throng of brilliant contemporaries. We are too near in time to the artists of the later nineteenth century to assign their permanent rank, but we can see how they also drew strength from fellowship and escaped the maddening isolation of Blake's solitary genius. The very wide range of their undertakings, covering so many applications of drawing, the memory of which had faded out of our time and country, makes their work especially worthy of study by those who come after them. Language is studied for daily use by thousands who have no thought of rising to eminence as poets, and many who scarce attain to the singing of a hymn tune yet derive much enjoyment from music. So too the general study of drawing, while to the few it may become a path of glorious inspiration, should open to the rest its serviceable methods and the introduction to a world of order and beauty.

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